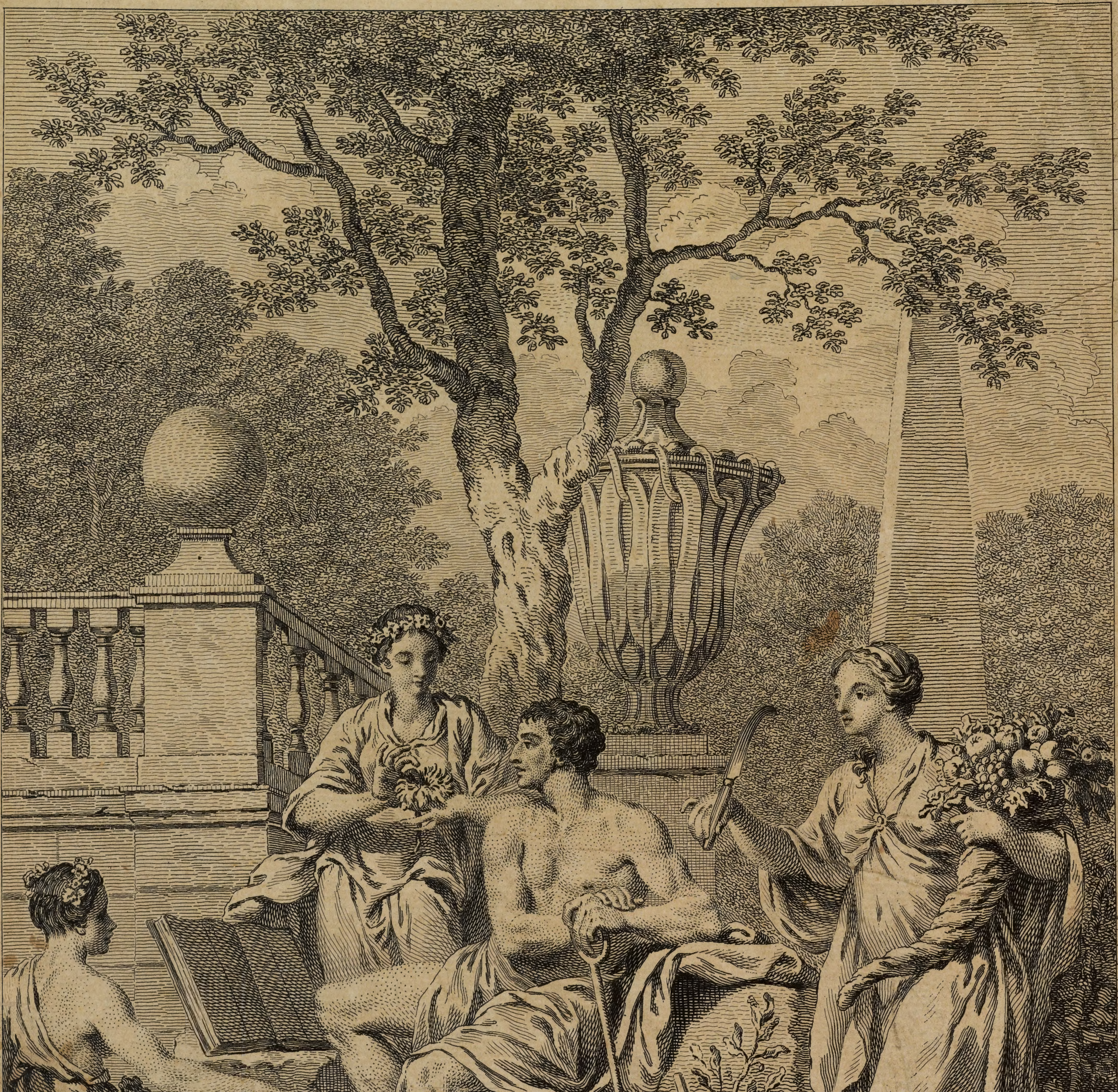

J. Wale delin. *C. Grignion sculp.*

The Genius of Botany explaining to the Gardner the Characters of Plants, while Flora & Pomona offer him their choicest Products, as Rewards of his Labour.

John Hill

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EDEN:

OR, A

COMPLEAT BODY

OF

GARDENING.

CONTAINING
PLAIN and FAMILIAR DIRECTIONS
FOR
Raiſing the ſeveral uſeful PRODUCTS of a GARDEN,
FRUITS, ROOTS, and HERBAGE;
From the PRACTICE of the moſt ſucceſsful GARDENERS,
AND
The RESULT of a LONG EXPERIENCE.

TOGETHER WITH
The Culture of all Kinds of FLOWERS, according to the Methods of the ENGLISH,
FRENCH, and DUTCH FLORISTS.
AND
The Knowledge of Curious PLANTS, after the Syſtem of LINNÆUS.
WITH
FIGURES and DESCRIPTIONS of the FLOWERS and PLANTS proper for a Garden,
INCLUDING
The CARE and CULTURE of the PLEASURE-GARDEN.
The BUSINESS of the SEMINARY for every Week in the Year.
CATALOGUES and accurate DESCRIPTIONS of the FRUITS as they come into Seaſon;
AND
New and PRACTICAL DIRECTIONS for the Management of FRUIT-TREES.
With the beſt Methods of Culture for
The ſeveral ARTICLES of the KITCHEN-GARDEN:
AND THE
Compleat Management of the Ground for raiſing them, in the NATURAL and
ARTIFICIAL Manner.

Compiled and Digeſted from the PAPERS of the late celebrated Mr. HALE,
By the AUTHORS of the COMPLEAT BODY of HUSBANDRY.
And comprehending
The ART of conſtructing a GARDEN for USE and PLEASURE;
The beſt METHODS of keeping it in ORDER:
AND
The moſt perfect ACCOUNTS of its ſeveral PRODUCTS.

Mo. Bot. Garden.
1893

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MDCCLVII.

1757

PREFACE.

THE Number of Works already extant on this Subject, has not deterred the Author from this Undertaking, becauſe he ſees the Imperfections and the Errors which abound in all. Some of thoſe Pieces have been compiled by Perſons who had neither Judgment nor practical Knowledge; others by ſuch as were acquainted but with ſome one Part, and deficient in all the reſt; and the very beſt of them (how often ſoever new dreſs'd and alter'd to the Time) are really antiquated, and deficient in the modern great Improvements. They have been received by the Public only becauſe there were no better: for all who read them find their Defects; and perceive the Neceſſity of a more comprehenſive and leſs erroneous Work.

Hitherto, thoſe who have written on Gardening, have been uninformed of the Principles on which that Art ſhould be founded: the Intent here is to explain the ſeveral Methods of bringing it, in each Branch, to Perfection; to unite the Science of Botany to the Arts of Culture: to apply Philoſophy to Gardening; and make it raiſe thoſe Scenes wherein it takes Delight.

We ſhall endeavour to inform the Gentleman and Mechanic together; to eſtabliſh the one as the Head to plan and to conduct, and accompliſh the other as the Hand to execute. To the Gentleman we ſhall explain the Structure and Particularities of the ſeveral Species of Flowers; the more uſual, and thoſe newly raiſed by the Induſtry of our Floriſts; as alſo of the curious Plants introduced from Aſia *and* America *within the laſt thirty Years. Theſe are a vaſt Number; they compoſe the moſt valued Part of the Study at preſent; and they have yet been treated of by none in this Way; their very Names not being found in any Book on this Subject.*

The working Gardener we ſhall, in the ſame Manner, inſtruct in his Province; and direct him plainly what he ought to do in every Article of his Profeſſion. We ſhall ſhew how the worſt Soil may be render'd fruitful, by proper Additions: and having thus prepared the Ground for yielding its Products, and taught him how to raiſe them, we ſhall lay down the Methods of diſpoſing it into Form; and the moſt ſucceſsful Way of planting it for Uſe and Beauty.

We ſhall comprehend the Compaſs of this Work nearly within the Circle of the Year; and ſo accommodate the Publication to the Seaſon, that every Week ſhall direct what is that Week to be done.

Gardening is to be conſidered in a double Light; as it regards Products of Uſe, and thoſe of Pleaſure: theſe ſhould be always perfectly diſtinguiſh'd; and they will be here treated in a ſeparate Style. The Directions concerning the firſt, being ſuch as the Gardener muſt underſtand, will be delivered in the moſt familiar Manner, and in the plaineſt Words: every Article reſpecting the Management of the Kitchen and Fruit Ground ſhall be thus explained. On the other hand, as the Names of Flowers and curious Plants are the proper Knowledge of the Gentleman, they will be treated in the Manner of Science; and he will be taught to ſpeak of them in proper Terms.

The general Method and Diſtribution of the Work for each Week, will be this: we ſhall arrange the whole that concerns the Culture of Plants, under four Heads, as it regards, 1. *The Flower Garden, with its great Ornaments, the Greenhouſe and Stove.* 2. *The Seminary or Nurſery for its Supply.* 3. *The Fruit Garden; including the Wall, Eſpalier, and Orchard Trees.* 4. *The Kitchen Garden; comprehending under that Head the natural and artificial Methods.*

This general Diviſion will diſpoſe the whole into four Sections; and under each of theſe, the Particulars will be deliver'd in ſeparate Chapters; the one including an Account of the Products that are in Seaſon; and the Care and Culture of the Ground.

Under the Section relating to the Flower Garden, the firſt Chapter will contain an Account of the Flowers and curious Plants that Week in their Perfection: not a bare Liſt of them, as others have contented themſelves to give; but a compleat Hiſtory of each, with its Method of Culture.

The ſecond will deliver the Care and Management of that Part of the Ground.

The Section relating to the Seminary will be diſpatched in a ſingle Chapter; for there the Culture is all, there being intended in that Part no Products of Perfection.

Under the third Section we ſhall give an Account of the Fruits that Week in Seaſon, with their proper Names and Deſcriptions: from this every one will know what Kinds to expect, and by what Names to call thoſe he ſees: and after this will be delivered the Care and Management of Fruit Trees for that Seaſon.

In the ſame Manner, under our laſt Section, will be given firſt a Liſt of the Kitchen Garden Products then fit for Uſe, and afterwards the Management of the Ground.

In theſe Parts we ſhall not content ourſelves to retail to the Reader what is to be found in other Writings, for they are of little Uſe in moſt Articles, from the late great Improvements; but ſhall add the preſent uſeful Knowledge.

The Study of Plants has undergone many Variations with reſpect to Method; and, at preſent, the Syſtem of LINNÆUS *is univerſally followed.*

No Book of Gardening has been written ſince this abſolute Change in the Science; therefore all now extant are antiquated, and, in this principal Light, altogether uſeleſs. Thoſe who underſtand Plants, now call them, univerſally and ſolely, by the Names of this Author: and theſe Names not being found in any of the preſent Writings on the Subject: they are therefore defective on this important Head.

Some Method of Botany muſt be adopted in a Book of Gardening; and TOURNEFORT's has been taken in the moſt popular Work of this Kind: but that Author's Method is now utterly rejected, and the Work, being dependent on it, is rendered ſo far obſolete. We ſhall, in this, follow the Syſtem of LINNÆUS, which we ſhall deliver compleatly, explaining his Terms. As the whole of the Science will be comprehended in the Work, we ſhall make it alſo familiar, plain, and eaſily intelligible: the unlearned ſhall, in this Book, underſtand the Syſtem of that celebrated Author.

To this End, as the new Method, tho' greatly eſteemed, is ſuppoſed to be abſtruſe and difficult, we ſhall, in the firſt Numbers, explain it as Occaſions ariſe, under the ſeveral ſucceſſive Heads, in the moſt intelligible Words. This will give a general Idea of it, which we ſhall afterwards occaſionally illuſtrate under the ſucceeding Articles.

In the Diſpoſition of the Plants, we ſhall conſider them as divided into ſo many Aſſortments as there are Weeks in the Year; and ſhall treat of them diſtinctly as they come into Flower; in the following Order. We ſhall give, 1. The general Character of each. 2. Its Names, vulgar, common, and proper. 3. Its Deſcription; and under this Head, from the Character of the Flower, we ſhall ſhew its Claſs in the Linnæan Syſtem; and, 4. Its Culture.

The practical Part will be delivered as carefully, and in this all will be plain and eaſy: no Latin Names, nor Terms of Art will be there inſerted: the meaneſt Labourer will underſtand it.

The general Subject will naturally fall under four Heads: 1. The Conſtruction of a Garden. 2. The keeping it in Order. 3. The Products of Uſe; and, 4. The Products of Pleaſure: and we ſhall be full, expreſs, and practical on each. We ſhall ſhew how to make a good Garden in any Soil; how to diſpoſe the Ground to the beſt Advantage in any Situation; how to manage it when made; and in what Manner to rejoice the Palate and the Eye with all its Products.

We ſhall, in the proper Parts, from Practice and Experience, add to the common Knowledge of the Gardener, the certain Methods of producing the fineſt Fruits in their beſt Perfection; and we ſhall deliver the hitherto unpubliſh'd Secret of raiſing ſtriped Leaves and double Flowers. Under this particular Head we are favour'd with ſome Communications from Holland and from France, which have been try'd and found ſucceſsful; and may therefore be made public to Advantage.

To compleat the Article of Flowers, Shrubs, and curious Plants, we ſhall illuſtrate our Deſcriptions with Figures elegantly engrav'd: they will be drawn from Nature; and for thoſe who chuſe it, will be colour'd in the moſt elegant Manner.

'Tis diſagreeable to deſcend to Particulars, with Reſpect to the Defects of other Writers; but ſince what has been here ſaid, may be called idle Words, without farther Proof, we ſhall, as an univerſal Example, produce one Inſtance, out of Thouſands.

We will ſuppoſe a Gentleman charmed with the Fragrance of the ſingle Rocket, and with the thick Spike of the double; and that he is deſirous to underſtand what he ſo much admires: he will, for this Purpoſe, turn to the Book of moſt received Reputation, and look for Rocket; but he will look in vain: the Word is not in the Alphabet; and who ever thought of the Index of a Dictionary.

This is a common Flower; a Gardener's Book ſhould not be without the Term in its proper Place: if the Plant were not treated under the Engliſh Name, that Word ſhould have been inſerted with a Reference to the proper Latin one: but this is not done.

We will ſuppoſe the Gentleman to purſue his Search, and look for Rocket in a common Dictionary, that he may find what is Latin for it; and then turn to it in the other. He finds the Word there, and ſees for its Latin Name Eruca.

He looks for Eruca in his Gardeners Book; and he finds it; but he meets with no Information. He reads that there are ſix Kinds of Rocket; and that four of them are Plants of no Uſe or Beauty, and the two others Sallad Herbs.

This is all; and it is plain nothing he there reads relates to the Plants, concerning which he is deſirous to be informed.

Rocket is indeed a wrong Name for that Herb; but ſhould not a Writer in this Way, have, in its due Place, informed him ſo? though a falſe Name, it is an univerſal one: the Plant is commonly called by no other, and therefore will, by the Generality, be look'd for under no other.

We have ſhewn the Imperfection of the preſent Works, even the beſt of them, by this Inſtance: and we ſhall add what will be done in ours. We ſhall inform the Gardener and the Gentleman, that Rocket is the proper Term for a Sallad Herb, now out of Uſe.

That the ſame Word when uſed as the Name of a Flower, is applied to the Plant Heſperis; the proper Engliſh Name of which is Dame's Violet. Under either of which Names it will be found in our Book.

We ſhall acquaint him that this right Name Heſperis, was given to the ſingle Kind, becauſe of its great Sweetneſs toward Sun-ſet; that Word in Greek ſignifying the Evening.

We ſhall, in this Manner, aſcertain the proper Names of all Plants raiſed in Gardens; and in this, and innumerable other ſuch Inſtances, Things will be thrown into their right Courſe; the Gentleman will inſtruct his Gardener what to call Plants; not go to him for that Inſtruction.

When we have in this Inſtance ſhewn what the Herb vulgarly called Rocket, is, we ſhall direct the proper Place and Uſe of the ſingle; and the Method of producing the double Kind. Delivering its Qualities and Uſe, illuſtrated with its Figure: and ſo of all other Garden Plants.

This which we have particularized in one, is the Method we ſhall follow in every Article. Shewing the Gardener and the Gentleman what the Herbs, Flowers and Fruits, proper for a Garden, are; and how to raiſe each to its full Perfection.

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6. Great white Narciſſus, 464.
June. The third Week, 469 to 480.
1. The late double Tulip, 469.
2. Oriental Meadow Crowfoot, 470.
3. Humble Polemonium, 472.
4. Double white Crowfoot, 473.
5. Sanguinaria, 474.
6. Deadly Nightſhade, 475.
June. The laſt Week, 481 to 492.
1. The Nonpareil Daffodil, 481.
2. Hairy Curaſſo Purſlain, 482.
3. Amethyſtine Muſcari, 483.
4. Æthiopian Adonis, 484.
5. Grey ſtarry Hyacinth, *ibid.*
6. Broad-leav'd Portugal Iris, 485.
July. The firſt Week, 493 to 504.
1. Roſebay Willow Herb, 493.
2. Poetic Daffodil, 495.
3. The two-ſtaged Martagon, 497.
4. Inverted Columbine, *ibid.*
5. Oriental Gladiole, 498.
6. Striped bulbous Iris, 499.
July. The ſecond Week, 505 to 516.
1. The Blood-ſpotted Carnation, 505.
2. The great crimſon Carnation, 506.
3. Great Tobacco, 507.
4. Double Roſe Campion, 508.
5. Common Garden Pink, 510.
6. Majeſtick Crown Imperial, 511.
7. Great Chalcedonian Anemone, 512.
July. The Middle, 517 to 528.
1. Silver and Gold Daffodil, 517.
2. Suſian Iris, 518.
3. Single golden Amaryllis, 519.
4. Double golden Amaryllis, 520.
5. Crimſon oriental Amaryllis, 521.
6. Peach bloom Iris, 522.
July. The latter End, 529 to 540.
1. The double red Roſe, 531.
2. Great annual Helianthus, 531.
3. ——— Flake Carnation, 532.
4. ——— Bizarre Carnation, 533.
5. Double violet Poppy, 534.
6. Feather'd Poppy, 535.
7. The double Muſk Roſe, 536.
8. The hundred leaved Roſe, *ibid.*
August. The firſt Week, 541 to 552.
1. Great white Aſphodel, 541.
2. Præneſtine Roſe, 542.
3. Scarlet Chalcedonian Lilly, 543.
4. The double bloſſom'd Bramble, 545.
5. Mandrake, 546.
6. Spaniſh bulbous Iris, 547.
August. The ſecond Week, 553 to 564.
1. Oval-leav'd Crematis, 553.
2. Alopecuroide Aſtragalus, 554.
3. Oriental Betony, 555.
4. Laciniated Rudbeckia, 556.
5. Siberian Larkſpur, 557.
6. Many ſpiked Veronica, 558.
August. The third Week, 565 to 576.
1. Yellow Hemerocallis, 567.
2. Great red Cheiranthus, *ibid.*
3. Orange Hawkweed, 569.
4. The Bee Flower, 570.
5. Dotted Canna, 573.
6. Crimſon Bizantine Lilly, *ibid.*
August. The laſt Week, 577 to 588.
1. Golden perennial Mothmullein, 577.
2. Double Trachelium, 578.
3. Nettle leav'd Siberian Phlomis, 579.
4. Various flower'd Coronilla, 581.
5. Purple center'd Rudbeckia, 582.
6. Flat leav'd golden Sedum, 583.
September. The firſt Week, 589 to 600.
1. Ciliate leav'd Rhododendron, 591.
2. The Storax Tree, 592.
3. The Hop Horn-beam, 593.
4. Ternate leav'd Rue, 594.
5. Purple Tragacanth, 595.
6. Lemon Saxifrage, 596.
September. The Beginning, 601 to 612.
1. Beureria, 601.
2. Thuringian Lavatera, 603.
3. The ſtriped Lilly, 604.
4. Yellow Pyrenæan Aconite, 605.
5. Lanceolate Broom, 607.
6. Scarlet Monarda, *ibid.*
September. The ſecond Week, 613 to 624.
1. Drooping Shrub Xeranthemum, 613.
2. Yellow African Shrub Trefoil, 614.
3. Golden Cudweed, 615.
4. Narrow leav'd Hebenſtretia, 616.
5. Yellow occidental Caſſia, 617.
6. Three forked Santolina, 618.
September. The latter Part, 625 to 636.
1. Indian Exacum, 625.
2. Three colour'd Protea, 626.
3. Crimſon Ixora, 627.
4. Mitchella, 629.
5. Shrubby Juſſiæa, *ibid.*
6. Trifid leav'd Leucadendros, 630.
7. Callicarpa, 631.
8. Avicennia, 632.
September. The laſt Week, 637 to 648.
1. Late bulbiferous Lilly, 637.
2. Scarlet Muntingia, 639.
3. Narrow leav'd Othonna, 640.
4. Oval leav'd Cordia, *ibid.*
5. Late Pomponian Martagon, 641.
6. Broad leav'd Star Hyacinth, 642.
October. The firſt Week, 649 to 660.
1. Double China Aſter, 649.
2. Double crimſon Hollyhock, 652.
3. Spotted Phlox, 654.
4. Single violet Stock Julyflower, 656.
5. Double variegated Stock Julyflower, *ibid.*
6. Trilobate Lavatera, 657.
7. Giant Lupine, 658.
October. The ſecond Week, 661 to 672.
1. Ever-green Centaurea, 661.
2. Broad leav'd Scabious, 662.
3. Purple tanzy-leav'd Achillæa, 663.
4. Variegated rough Silene, 664.
5. Yellow oriental Cornflower, 665.
6. Golden Cotyledon, 666.
October. The Middle, 673 to 684.
1. Allobrogian Hemerocallis, 673.
2. Double red Campion, 674.
3. Arabian Ornithogalium, 675.
4. Illyrian Pancratium, 677.
5. Dark flowered white Hellebore, 678.
6. Green back'd Ornithogalum, 679.
October. The latter End, 685 to 696.
1. Dwarf ever-green Phaſeolus, 685.
2. Green flower'd Squill, 686.
3. Willow-leav'd Shrub Aſclepias, 687.
4. Corymbous lobated Spiræa, 688.
5. Purple Æthiopian Amaryllis, 689.
6. Prickly Oſteoſpermum, 690.
October. The latter End, 697 to 708.
1. Single Heſperis, 697.
2. Crimſon Periwinkle, 698.
3. Jacobæan Lotus, 699.
4. Acutabulated Horehound, 700.
5. Double white Lilly, 701.
6. Ferrugineous Foxglove, *ibid.*
October. The laſt Week, 709 to 712.
1. White Indian Heliotrope, 709.
2. Virginian Pulmonaria, *ibid.*
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4. Violet Cyclamen, *ibid.*
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TO THE

RIGHT HONOURABLE

The EARL of BUTE.

MY LORD,

HE cannot fear the Cenſure of the World, who may addreſs to your Lordſhip's moſt diſtinguiſhed Name his Labours in a Science which has received ſo great Improvement from your own Regard; nor will Malice dare to throw out her ineffectual Poiſon againſt thoſe Endeavours which have been honoured with your Approbation.

Botany, one of the moſt uſeful among the Sciences, and of all the moſt delightful, had lain through many Ages, reſtrained in narrow Limits, and buried under artleſs Methods. Of late the Additions exceed by many Times the original Stock: *America* has furniſhed us with a Number of Plants, larger than all the *Grecian* Studies knew; and the great *Swede* has made Advances towards Perfection in the Science, ſuch as perhaps no Age has ſeen in any other.

What we have owed to your Lordſhip's Attention in adorning our Kingdom with theſe foreign Elegancies, all know who have heard the Name of modern Botany; but none can ſay how much the Science itſelf may ſtand indebted for farther Improvements to that free Patronage you are pleaſed to give to all who cultivate true Knowledge.

Perhaps it is not too much to hope, that under ſuch Auſpices the Subject will be purſued ſucceſsfully, till not a Flower of the Eaſt or Weſtern World ſhall be wanting in our Gardens; till the Science, traced in Nature only,

Paulatim vitia atque Errores exuit omnes:

and the Glory of having raiſed it to that Perfection, ſhall be given to *Britain*; and more immediately to your Lordſhip's Patronage and Example.

I have the Honour to be

with the higheſt Regard,

My Lord,

Your Lordſhip's

Moſt obedient,

and moſt humble Servant,

St. James's Street,
Nov. 5. 1757.

JOHN HILL.

EDEN:

A
COMPLEAT BODY
Of CURIOUS and USEFUL
GARDENING.

No. I. For the latter End of AUGUST.

THE
INTRODUCTION.

Of the propoſed Method of the Work. And of the general Diſtribution of a Garden.

August.

WE ſhall treat of Gardens from their Origin, Deſign, and firſt Conſtruction, to the raiſing them to Perfection, and keeping them in that Condition; and we ſhall conſider, in our Courſe, their Products, whether of Uſe, Curioſity, or Beauty.

Theſe we ſhall deſcribe in their ſeveral Seaſons, ſuiting our Publications to the Time of their Appearance; reſerving to thoſe Parts of the Year in which there are feweſt of theſe Objects to delight the Eye, thoſe Things which are the Employment of the Imagination. In the Winter Months we ſhall deliver Rules for planning and laying out the Ground; for the Conſtruction of the whole, and for the Diſtribution of its particular Parts. In the preſent Numbers our Purpoſe will be to inform the Poſſeſſor of a Garden, whether of larger or leſs Extent, how he may beſt enjoy the Autumn, and prepare for the ſucceeding Spring.

We ſhall place ourſelves at the Period which is at preſent before us; that the Reader's Eye may occaſionally recur from the Garden to the Book, and again from that to the Garden; confirming and illuſtrating one by the other.

As we thus adapt our Work to the Time, we ſhall introduce the Reader at once into his Ground, as it appears at this Seaſon; glowing with the laſt Flowers and Fruits of Summer, and promiſing thoſe of Autumn.

We underſtand the Garden of which he is poſſeſſed, or of which he now comes into Poſſeſſion, to be ſtocked with the common Things, and to have been hitherto kept in the uſual Manner; as every Gardener has been taught, from Father to Son, mechanically to manage it, and as every common Writer has copied his Directions from the laſt before him.

August.

In this Condition he finds it, and we propoſe to inform him how he may improve it: In the ſucceeding Numbers we ſhall deliver the Methods of doing this in the Diſpoſition of its Parts; and in the preſent by the Introduction of new Plants, by raiſing new Varieties of ſtriped, of painted, and of double Flowers; and by a more rational and more ſucceſsful Care of thoſe he has already.

Method and regular Diſtribution are the familiar Paths to Knowledge; and they are no where more neceſſary than in the Conſideration of a Garden.

Under the general Name of its Products are comprehended Objects of various Kinds, ſome of Uſe, and others raiſed ſolely for Pleaſure; ſome, as the common Flowers, for the Amuſement of the Eye, others, as the exotick Plants, for the Encreaſe of Knowledge.

Theſe laſt are the nobler Part of the Study, and they are what the greateſt Perſons who are pleaſed to honour the Science with their Notice, moſt obſerve. Theſe were the Regard of a RICHMOND (never to be named without Reſpect and Tears) and they are now the Care of an ARGYL: in theſe a PETRE once delighted, and a BUTE at preſent.

Theſe we ſhall explain, not as that is attempted in the moſt popular Work of this Kind, in the antiquated Terms of TOURNEFORT, but according to the Syſtem of LINNÆUS, now ſolely followed; and to the Numbers already introduced, incite the Curioſity and Taſte of theſe the Patrons of the Science to add others which are worthy; Natives of the remoteſt Climates which have flouriſhed in the Gardens of HOLLAND and of FRANCE, and which may give a new Luſtre to ours.

We have thus delivered the intended Method of our Work, and may now advance into the Garden: as its Products are ſo diſtinct, and its Purpoſes in different Parts ſo various, we hope it is found by the Poſſeſſor already divided into ſeveral Partitions according to the Deſigns of PLEASURE, of USE, of CONVENIENCE, and of CURIOSITY: if otherwiſe, it muſt be his Care in the ſucceeding Months to give it this Diſtribution.

Let him remember that he is to raiſe in it Plants of uncommon Kinds, and Flowers of Elegance, for the Contemplation of the Eye and of the Mind; and Products of Uſe for the Gratification of the Appetite. Theſe, from their various Natures, require a different Care and Culture; and in the Eye of Reaſon a different Place: as they are ſeparate in Nature, let them be kept diſtinct upon the Ground. We ſhall deliver the beſt Methods of managing all the Kinds; and the ſeveral Species of Culture ſuited to their different Stages.

As the Improvement of Botanic Knowledge is the nobleſt Article of the Gardener's Province, we ſhall begin with that Part of the Study; explaining the ſeveral Plants according to the juſt Form of Science; and illuſtrating them with Figures. After theſe we ſhall come in courſe to the full and practical Conſideration of the ſeveral other Articles.

Upon this general Diſtinction into Products of CURIOSITY and thoſe of USE, depends the firſt Article in the Diſtribution of a Garden. Theſe are to be kept ſeparate; and they naturally throw the whole into two great Diviſions: but under each Head there alſo riſe other ſubordinate Cauſes of Diſtinction.

Of the Plants which laudable Curioſity, and a Thirſt of Knowledge have brought to us from other Regions, ſome will endure our Seaſons throughout the Year; others can only be expoſed to the open Air during the warmer Months; and many are too tender to bear its full Force at any Time.

Theſe the judicious Gardener is to manage according to their various Natures; and hence ariſe the Diſtinctions of the OPEN GROUND, the GREENHOUSE, and the STOVE.

This is a Diſtribution ſo needful, that the very Being of the Plants depends upon it.

Some of the hardy Kinds may be, and ſome muſt be raiſed where they are to remain; but the greater Part will bear to be tranſplanted, and ſome thrive for it the better.

Theſe ſhould be raiſed in another Place, and only brought into the Borders at a proper Time before their flowering.

This Conſideration gives Origin to what is called the Seminary or Nurſery, a diſtinct Part in the Diſtribution of the Ground: in this they are to be produced from Seeds or otherwiſe, and preſerved till toward the Time of their arriving at their Perfection.

The Products of the Kitchen Garden require in the ſame Manner their different Degrees of Heat, and alſo their ſeveral Tranſplantations: but as Frames and Glaſſes here ſupply the Place of Greenhouſes and Stoves, and Uſe not Elegance is the Deſign of this Part, one Quarter removed from the reſt, and properly conceal'd, will anſwer this Purpoſe; and there will need no farther Regard to this Matter in the Article of Diſtribution.

The Herbage of a Garden being thus diſpoſed we come to the Conſideration of its Fruits. Theſe are raiſed principally againſt Walls, or in Eſpaliers, and therefore rather belong to the natural Diviſions of a Garden, than require a particular Aſſortment under that Article: but as there are ſome which are the proper Product of a ſeparate Quarter, we ſhall conſider theſe as the Portion of a peculiar Piece of Ground under the Name of an ORCHARD.

From this we ſhall be led to ſuch other Trees, as from their Beauty deſerve a Place in the Garden, but from their vaſt Growth cannot be contained there, and therefore are to have a ſeparate Place under the Name of the WILDERNESS.

This is the proper and perfect Diſtribution of a Garden; and theſe its natural and neceſſary diſtinct Compartments.

If our Reader finds himſelf in Poſſeſſion of one thus divided into FLOWER and KITCHEN GROUND, defended by WALLS and planted with ESPALIERS, furniſhed with its GREENHOUSE and its STOVE, and enlarged by the Addition of its SEMINARY, ORCHARD, and WILDERNESS, he will have no more Care upon his Mind than to obſerve our ſeparate Inſtructions with Reſpect to the Management of each: but if he find it wanting in any of theſe Reſpects, and intend to make it compleat, he is to wait the proper Seaſon, and he will here find Directions for that Purpoſe.

According to the diſtinct Parts of a Garden which we have here laid down, the Poſſeſſor of the Ground will find its Products arranged under four Heads; the firſt comprehending the curious Plants and Flowers; the ſecond uſeful Herbage; the third Fruits, and the fourth Foreſt-Trees: theſe we ſhall conſider in their proper Order; pointing out the principal Kinds he is each Week to expect in their Perfection; and explaining each Article according to the Dictates of Experience and the Laws of Science.

SECTION I.

FLORA; or the Pleaſure Garden.

This being a Time in which little is needful to be done in the Kitchen Ground, we ſhall devote the greater Part of the preſent Number to the Flower Garden: and in the ſame Manner we ſhall reduce that Article in ſome of the ſucceeding Numbers to give full Directions for the others.

ENTERING in this Place, on the Conſideration of curious Plants, we begin in the greateſt and moſt perfect Part of the Study. It has been called the moſt difficult: but the Purpoſe of this Work is to render it eaſy.

A Knowledge of Botany is what every one, converſant at all in theſe Things, is deſirous to attain; and we ſhall here point out the certain Path; introducing the Student at his firſt Step into the Road of Science; and leading him by the Hand through all its Meanders and ſuppoſed Perplexities.

There is but one Syſtem now received in the World: this is that of the celebrated LINNÆUS. Not only the Diſtinctions and Terms of the Science are taken from him, but the very Names of Plants: Many of our late Acquiſitions having been new named by him, and ſome of the moſt curious by no other Author. This is the Path all, at the preſent Time, purſue in the Study, and this has not been named or introduced in any Work of Gardening hitherto publiſhed. It has been invented ſince the Writing of moſt Books on this Subject, and (with Modeſty be it ſpoken by the Authors of this) it is above the Reach of thoſe who have written the others. A Knowledge of the GREEK Language is needful to underſtand the very Meaning of the Words, for they are all derived from it; and to comprehend the Characters annexed to them requires a Search into Nature's Boſom, which few ſuch have Application or Capacity to perform.

Let it not ſeem too aſſuming, that we propoſe here to explain this abſtruſe Syſtem. The GREEK, though no Gardener's Tongue, is not an unknown Language; nor are the Depths of Nature unfathomable. The Want of a Work on Gardening, in which this Method ſhould be explained, was the principal Occaſion of the preſent Undertaking; and we propoſe in it to make this SWEDE ſpeak ENGLISH, and to deliver his Method in ſuch a Manner, that all may comprehend it; and the moſt ſlight Student ſmile at thoſe, who, when they allow its Uſe, lament its Difficulty.

CHAP. I.

FLOWERS *and curious* PLANTS *now in their Perfection.*

THE ſucceeding Numbers of this Work will have the ſame Diviſion with the preſent: In each we ſhall treat of the Flowers and curious Plants which are in their full Beauty at the Time of its Publication: one Number cannot contain all of them, becauſe the whole would be then employed on that Head alone, and the other Sections over-looked or ſlighted; but the principal ſhall have Preference each Week; thoſe which are moſt conſpicuous and moſt worthy of their Place, and thoſe it would be an Honour to the judicious Gardener to introduce. Of others we ſhall ſpeak hereafter.

As we ſhall not inſtance in this Place all the Genera, neither ſhall we enumerate all the Species under each: but to keep up the due Proportion in the ſeveral Parts of our Work, we ſhall ſelect a proper Number out of thoſe which offer; and under every Article chuſe ſuch as will beſt ſerve the Purpoſes of Knowledge and of Practice to the Reader: we ſhall fix our Choice on thoſe particular Plants, which will be moſt proper to illuſtrate the Syſtem of LINNÆUS to the Gentleman; and moſt ſerviceable to explain their Culture to the practical Gardener.

1. SCARLET CANNA.

Plate I. Fig. 1.

This is a Plant of great Singularity, and is not without its Beauty. The Vulgar call it FLOWERING REED, and INDIAN REED; the common Writers, CANNACORUS VULGARIS, and ARUNDO FLORIDA. Its proper Name is *Canna foliis ovatis utrinque acuminatis nervoſis. Canna* with oval Leaves, ſmall at each End, and nervous.

Its Root is tuberous, thick, and irregular; the Stalk is round and jointed; the Leaves are large and broad; they are ſmall at the Baſe, ſharp-pointed, deeply rib'd, and of a pale green. They are very numerous, and at their firſt Appearance are twiſted up like Horns. The Plant is a Yard high.

The Flowers are long and ſlender, and they ſtand with their Cups upon the Rudiment of the Fruit. Ten or a Dozen of them appear at once upon the Top of the Stalk; and their Colour is a bright and beautiful Scarlet.

Each is compos'd of a ſingle Petal, divided into ſix long ſlender Parts, one of which turns down. Its Bottom is ſurrounded by a Cup form'd of three little Leaves; and in its Centre there is a ſingle Filament, at the Top of which

Auguſt.

Auguſt.

which is fix'd a ſlender Button.

Beneath the Cup is plac'd the Rudiment of the Seed-veſſel or Fruit: this while the Flower continues is roundiſh and rough, but ſmall. After that is fallen, it grows larger; the Cup remains upon it in a kind of Crown; and the Seeds contain'd in it are roundiſh and hard.

This Plant belongs to the firſt Claſs, in the Method of LINNÆUS, the Title of which is MONANDRIA. This we ſhall here explain.

The Syſtem of that Author is founded upon the internal Parts of the Flowers of Plants; and his Claſſes are eſtabliſhed upon the Number and Diſpoſition of thoſe Filaments or Threads, which are their principal Part.

To underſtand this perfectly, let the Reader lay before him a common Flower of almoſt any Kind: he will find theſe ſeparate and diſtinct Parts: 1. The Cup: 2. The Body of the Flower conſiſting of one or more Leaves, call'd Petals; and, 3. One or more Filaments or Threads, crown'd with Buttons, call'd Antheræ.

There are particular Plants, whoſe Flower wants one or other of the firſt nam'd Parts; and ſome in which the Antheræ have no Filaments to ſupport them; but theſe are particular Inſtances, and will be explain'd in their Place: What we have here nam'd, is the general Structure of a Flower.

In order to underſtand the Syſtem of LINNÆUS, the Threads or Filaments, with their Buttons, or Antheræ, are to be counted and examined; for according to their Number firſt, and afterwards to their Diſpoſition, he has arrang'd the Plants under his diſtinct Claſſes. Let us refer this to the preſent Inſtance. On examining the internal Part of the CANNACORUS Flower, we find one Filament with its Button. The firſt Claſs of LINNÆUS comprehends thoſe Plants which have Flowers with a ſingle Filament: Therefore this is one of this Claſs.

The Term by which he expreſſes it MONANDRIA, is form'd of two *Greek* Words: the Senſe of which is, Plants in whoſe Flower there is only *one Male Part:* the Nature and Office of the Filament or Stamen, with its Button, is denoted by that Expreſſion.

Thus the Reader underſtands what is meant by the firſt Claſs of LINNÆUS, and has made a fair Step into the Syſtem of Botany eſtabliſhed by that Author. Whatever other Plant he obſerves to have only one Filament, or Button, in the Flower, he will be able to ſay belongs to the MONANDRIA.

We ſhall as familiarly lead him to the Characters of the other Claſſes: and when he knows as much of them, as he already does of this, he will have maſter'd the firſt great Article of this famous Syſtem.

Now the Character of the firſt Claſs is underſtood, the Source of that Author's ſubordinate Diſtinction into Sections, is to be explain'd; and this will be found as eaſy as the former, from what will be ſeen in the ſame common Flower, we have deſired ſhould be examined.

Within or among the Threads, in its Centre, there will be perceiv'd a Part or Parts different from them in Form, and deſtitute of that Anthera or Button which is fixed to their Top.

This Part is ſometimes ſingle; ſometimes there are ſeveral. Theſe are called the Style or Styles of the Flower: and they are ſometimes ſimple, all the Way ſometimes ſplit or divided.

As the Claſs is eſtabliſhed upon the Number of Threads or Filaments, the Section is determined by that of the Styles or their Diviſion: as the Nature of the Filaments is to perform the Office of Male Parts in the Plant, theſe ſtand in the Place of Female. They receive a Duſt from the Antheræ, which they deliver down to the Rudiment of the Seed, for its Impregnation.

From this Office of the Styles, the Section is nam'd, according to their Number: when the Style is only one, the Term is MONOGYNIA; this is alſo formed of two GREEK Words, and their Signification is, that the Plant has but *one Female Part* in the Flower.

Upon again examining the Flower of the CANNACORUS, we ſhall find in it, beſide the ſingle Filament, a ſingle Style: it is flat, and grows to the Filament. This ſhews, that CANNACORUS, or properly CANNA, is one of the MONANDRIA, MONOGYNIA, or one of the firſt Section and firſt Claſs of LINNÆUS.

We imagine the Reader will find no *Difficulty* in comprehending the Senſe of theſe two Words thus explained, and the Structure of this Flower. When he underſtands this, he is Maſter of LINNÆUS's firſt Claſs; for there is nothing more.

Thus eaſily do Difficulties vaniſh, when a proper Method of Explanation is laid down: and as the ſucceeding Claſſes in general depend upon the ſame Principle, they will be underſtood with more Eaſe than the firſt.

The CANNA is a Native of ASIA, AFRICA, and the hotter Parts of AMERICA: where it produces Abundance of Flowers in Autumn.

The Culture of the Canna.

The Seeds are to be ſown in Spring, upon a common hot Bed. When the Plants have grown to a little Strength, they muſt be tranſplanted into another hot Bed; and thence when large and ſtrong removed into Pots. Theſe are to be ſet in Places not too much expoſed to the Sun, though ſcreen'd from Cold, and there they will live till Autumn: they are then to be remov'd to the Green-houſe, there to be preſerv'd during Winter; and in the End of MAY they may be planted in good Earth, upon a warm Border: where they will riſe to Flower in their full Luſtre.

Some are fond of making this Plant flower the firſt Year, but it is then weak. The Flowers are neither ſo large or numerous, as they will be when the firſt Seaſon has paſs'd before their Appearance.

There are other Species of CANNACORUS, which we ſhall enumerate in a ſucceeding Part of our Work; and we ſhall obſerve the ſame Courſe in all other Inſtances. One Plant of a Kind is all we ſhall treat in each Number, till we have gone through the Culture of the whole Series. Few Words will afterwards explain the others: they would here perplex the Student, and take up thoſe Pages devoted to the other Labours of Time.

Their

Auguſt. Their Culture is the ſame with that of the firſt-nam'd Species; and the great Art is to prevent their flowering the firſt Year. This is to be done by Sowing late in the Spring, and not giving too much Sun.

The watering this Plant is an Article in which the common Writers will be apt to miſlead the Gardener. They order it to be done largely; if, as they direct, the Plant be frequently water'd, and ſet in a warm Place, it will commonly flower the firſt Year, which is what we have ſeen ſhould be avoided. Let it not be expos'd to too much Sun, and it will need leſs Water: and being ſhelter'd from Cold, it will live well thro' the firſt, and flower the following Summer. Auguſt.

2. FIG-LEAV'D HIBISCUS.

Plate 1. Fig. 2. This is a Plant of diſtinguiſh'd Beauty; it does Honour to the Gardens of France and Holland, and is worthy to be more frequent in our own. We ſhall endeavour to promote this, by ſhewing its Elegance and explaining its Culture.

Its common Name is Esculent Mallow, the Fruit being eatable. Authors, in general, have called it a kind of Alcea; but it is diſtinctly a Species of Hibiscus: its proper Name is Hibiscus *foliis quinquepartito pedatis calycibus interioribus latere rumpentibus*. Hibiscus, with Leaves divided in a Foot-like Manner, into five Parts; and with the inner Cups burſting ſide-ways.

The Plant is four Foot high, robuſt, branch'd and ſpreading; its Leaves are large, and, in the higheſt Degree, pompous and elegant.

The Root is fibrous, the Branches are round and yellowiſh, and often purple at the Joints. The Leaves are numerous, and of a delicate green; thoſe near the Bottom are divided, in the Manner of Fig-leaves, into five principal Parts; thoſe toward the Top have only three Diviſions, and ſometimes ſcarce any.

The Flowers are numerous and large, their Ground Colour is a very pale but elegant yellow, and they have ſtreaks of purple.

Luckily for the Student, the Parts in this Flower are large, as well as the whole: it will ſerve therefore excellently to explain one of the moſt abſtruſe Claſſes of Linnæus. It is here ſelected for that Purpoſe.

Theſe Flowers are ſcattered at Diſtances along the upper Branches, and each is ſurrounded at the Bottom by a double Cup. The Petals are five; they are very large, expanded, and lightly folded toward the Edge. Of the two Cups, the outer one is compos'd of eight narrow Leaves, and remains with the Fruit: the inner one is form'd of a ſingle Leaf, divided lightly into five Parts, at the Rim, and it remains with the other. The Seed-veſſel is large, pyramidal, and furrow'd upwards.

In the Center of this Flower ſtands an obvious Arrangement of Antheræ, or Buttons: the Threads of theſe do not riſe ſingly, as in many Flowers, but are united into a Body, and form a kind of Tube; from this grow the ſeveral Antheræ, which ſtand ſeparate and clear. Thus are the Male Parts diſpoſed in this Flower, and this determines its Claſs in the Linnæan Syſtem. That Author has arrang'd together the Plants whoſe Filaments thus unite into a ſingle Body, in his ſixteenth Claſs; the Title of which is Monadelphia. This is deriv'd from two *Greek* Words, and ſignifies Plants, *the Threads in whoſe Flowers are united into one common Fraternity.* Thus is the Student inform'd perfectly of this Diſtinction, and of the Meaning of the Term, by the Examination of a ſingle Flower. He will know, in Reſpect of all other Inſtances, that when he ſees a Flower, whoſe Threads are united into one Body, that Plant is one of the Monadelphia of Linnæus. The Mallows of all Kinds give him Examples.

This being the Diſpoſition of the Male Parts in the Flower, it remains to enquire into that of the Female. The Style riſes from a roundiſh Germen, and is longer than the Filaments; it is divided at the Top into five Parts, each of which has its ſeparate Head.

Linnæus has not ſubdivided this Claſs according to his uſual Cuſtom, from the Form of the Style, there being a greater Object for this ſubordinate Diſtinction; this is the Number of the Filaments or Antheræ. Five is the ſmalleſt Number found in any of the Monadelphous Flowers: the firſt Section therefore contains the Monadelphia Pentandria; after this come thoſe which have ten Decandria; and after them, thoſe which have more; under the Title of Polyandria: this Plant is one of theſe laſt.

Its Culture is eaſy; but being native of a warmer Climate, the Indies, it will fail if neglected.

The Culture of the Hibiscus.

Let the Seeds be ſown at the End of March, upon a moderate hot Bed. When the Plants have three or four Leaves, let them be remov'd to another hot Bed: this will forward them finely againſt the firſt Months of Summer. When the Weather is ſettled warm; and cold Nights are no longer fear'd, let them be remov'd, in a ſhowery Day, into a warm and well ſhelter'd Border, where there is Depth of good Earth, well broke by Tillage, and improv'd by rotten Dung.

Here let them be ſhaded and gently water'd, till they have taken Root; after which they muſt be kept clear of Weeds; the Ground about them often broke by the Hoe, and their Stems ty'd up to ſhort firm Stakes. They muſt be then well water'd, and brought forward as much as poſſible: by this repeated Care, one Plant will produce at a time fifty Flowers, and they will be ting'd more or leſs with purple: often they will have a fleſhy red throughout.

Let not the Reader ſuppoſe the Account of this Plant's Culture too particular: it is not only deſtin'd to this, but ſerves for other of the ſame Species brought from the warmer Climates. Thus Commelin firſt rais'd the Plant in the Amſterdam Garden, 1686. His Figure is not

Auguſt. a good one; but he very juſtly, in his Deſcription, ſpeaks of its great Beauty, and recommends it to the World.

The other Species of Hibiscus, worthy the Attention of the Curious, are, 1. The Moscheute Rose; 2. The Poplar Alcea; 3. The Sabdariffa; 4. The Syrian Alcea; 5. The Manihot; 6. The Abel Mosch; 7. The China Rose; and 8. The Bladder Ketima.

Theſe are the Names by which thoſe Plants are known, but they are all Species of the Hibiscus; moſt of them we ſhall explain at large in other Places, according to their Nature and their Time of flowering.

Why they are by Linnæus referr'd to the Hibiscus Kind, againſt the vulgar Arrangement, will appear from the Structure of the Flower, as we have here deſcribed it: that contains the Character of the Genus; and the Student is to refer to this Name every Plant with ſuch Flowers.

3. GREAT LARKSPUR.

This is a Plant of conſiderable Beauty in the Flower, and of a pleaſing Regularity in its Growth; its vulgar Name is Great Larkspur: the generality of Authors call it *Conſolida regalis flore majore multiplici*: ſome, *Delphinium Ajacis*. Its proper Name is *Delphinium nectariis monophyllis caule ſimplici*. Thus Linnæus calls it in his ſeveral Works. Plate I. Fig. 3.

It is a ſtately Plant, upright, but little branched, and five Foot high.

The Root is fibrous, the Stalk is firm and ſtriated; the Leaves are divided into very ſlender Segments; and the Flowers grow in a long and ſlender Spike, covering a third Part of the Plant.

In Nature they are plain and ſimple, but they are made ſo various by Culture, both in Form and Colour, that ſcarce any Deſcription can ſuit them. We have repreſented them in each Form in the Figure, and ſhall explain them firſt in their natural ſingle State, becauſe in that the Characters are beſt diſclos'd.

Each Flower is placed upon its ſeparate Footſtalk, and there ſtands naked without a Cup. It is compoſed of five unequal Petals, arrang'd orbicularly. The upper one is blunt and emarginated, and terminates behind in a long hollow Spur; the other four are broad, pointed, and expanded regularly. Within theſe ſtands a Part not found in all Flowers, and in few ſo conſpicuous as in this; it is the Nectarium: this is a Gland holding a Honey-juice. Its Form is various in the ſeveral Plants where we obſerve it: in this it is ſplit into two Parts, and placed forward and upward within the Petals of the Flower; behind it is extended in Length, and there the Spur ſerves it as a Scabbard.

The Filaments are numerous, and are inſerted on the Receptacle; they are ſmall, and turn up toward the upper Petal. Within that ſtand three Styles, with crooked Tops.

This is the Structure of the Flower, when ſingle according to Nature; and it is thus the Student muſt learn from its Parts and their Diſpoſition, the Place it is to hold in the modern Syſtem. He is made acquainted with two of the Linnæan Claſſes in the preceding Pages; and here he will learn the Characters of a third. This Plant he will perceive belongs to neither of the former, becauſe it has many Filaments, and they do not unite into a Body. We are to inform him, that it is one of the Polyandria, Linnæus's Thirteenth Claſs: the great Number of its ſeparate Threads, and their growing to the Receptacle, not to the Cup, is the Characteriſtic of that Claſs: its Name is form'd of two *Greek* Words, and ſignifies a Plant, in whoſe Flower are *many Male Parts*. The Term might have been made more expreſſive of its Character, for it is equally applicable to his Twelfth Claſs, of which we ſhall take Occaſion to ſpeak hereafter; but the annex'd Diſtinction ſufficiently eſtabliſhes it.

When the Student finds a Plant, whoſe Flower has numerous looſe Filaments, and theſe adhere to the Inſide of the Cup, he is to place it under this Twelfth Claſs hereafter to be explain'd; but when thoſe Filaments grow from the Receptacle, it belongs to the Polyandria, or Thirteenth.

In all theſe Characters there are certain Reſtrictions; that the Threads riſe ſeparate and free; that they have Styles in the ſame Flower; and that the Threads have no particular Diſtinctions among themſelves in Point of Length. The firſt Character, their growing free, ſeparates theſe Claſſes from the Monadelphia, already deſcribed, and ſome others; and the other Particularities here named diſtinguiſh them from certain other Claſſes, which we ſhall explain when we come to Plants belonging to them. We have preferr'd this Method of gradually introducing the Student to the Knowledge of the faſhionable and favourite Syſtem, as it will thus come the moſt eaſily. The acquiring this is eſteem'd the conſummate Height of Botanical Knowledge, and is earneſtly deſir'd by all who ſtudy it: let the Reader lay before him a Flower, while he reads our Deſcription of its Parts; and he will find it perfectly eaſy. This may always be done, becauſe we treat of Plants now in Flower, and no other; adapting each Week's Publication to that Week's Produce.

As the Number and Origination of the Filaments in the Larkspur Flower, ſhews it to belong to the Polyandria Claſs, the Number of its Styles, being three, ſhew it is one of the Trygynia: a ſubordinate Diſtinction into Sections being founded in moſt of the Claſs as in the firſt, explain'd under Cannacorus, and to be determin'd and underſtood in the ſame Manner.

This is the ſingle great Larkspur, whoſe Colour is naturally blue or red; for there is without

Art

August. Art ſo much Diſtinction: but when it is brought into Gardens and aſſiſted by Culture, we ſee it while ſingle, ſtriped with blue, red and white; and in its fineſt State we have it very large and double. In this Caſe the Spur is loſt, and the Number of Leaves is greatly multiplied: this, with the Variety of ſtriping makes it extremely elegant.

The Culture is often too careleſsly managed; but in the beſt Way there is nothing in it difficult.

The Culture of the LARKSPURS.

Some let them ſow themſelves, which they will do very well; but then the Plants come up ſtraggling and irregular; and they have not the Advantages of a full Culture.

Others ſow them in Spring: but then they flower late and weak.

The beſt Method is to ſow them in Autumn: and the Gardener is to know, that his moſt uſeful Care will be employed now that they are in Flower, before the Time of ſeeding.

He wiſhes to have his Plants ſtand regularly the next Year; therefore let him ſow them, not leave that Work to Chance: and he would only have good Kinds; therefore let him allow no Seeds of bad ones to ripen.

Let him not ſcruple to ſacrifice now a few Plants to the Advantage of a ſucceeding Year. Let him go the round of his LARKSPURS while in Flower, and pull up all that are of an inferior Kind. Let him not leave one Plant that is weak in Growth, or that has ſmall or ſingle Flowers.

When he has thus removed the poor Kinds, he is to let the Seed of the others ripen. When it is full ripe on the Plants, let it be gently ſhook out of the Seed Veſſels and ſpread thin upon a Table, and expoſed four Days to the Air, but not to the Sun. It will then be in perfect Order for ſowing.

Let a Border of fine Earth be well dug, a full Spade depth, and every little Clod broken: the beſt Breadth of this Border is five Feet, its Length may be at Pleaſure; and it muſt have an open and warm Expoſure.

August. The Border thus prepared, let three Drills be opened all the Length of it; and the Seed ſown in them, not thick, but equally and carefully. Let it be covered an Inch and half deep, and ſprinkle the whole Border lightly with Water as ſoon as it is in.

Thus let the Seed remain till Nature have thrown up the Plants, and they have ſome little Height; then let the Space between the Drills be weeded, and the Plants well examined; let the weak ones be pulled up, and let thoſe ſtout ones which remain ſtand two Feet and a half diſtant. After the clearing and thinning let them have a ſight Daſh of Water, and thus leave them again to Nature.

Defend the Border, if expoſed to dangerous Winds, by ſticking here and there ſome Furze Buſhes in it; and after this no more is to be done, but to keep the Ground clear from Weeds. The Plants will riſe very bold and noble, and their Flowers will ſtand thick, and grow to their beſt Bigneſs.

The common Directors bid the Gardener tranſplant his Larkſpurs from the Seed Bed; and thoſe who have written with more Reputation, give him his Choice to thin them, or to tranſplant them; but Experience ſhews the Choice is not equal, and we guard him againſt their Errors. The LARKSPUR never riſes to its full Perfection, but when it is left to flower in the Seed Bed, and is there kept clear and diſtant.

He who follows this Direction with Reſpect to theſe Plants, will find his Stock every Year improve in Elegance.

If the curious Reader chuſe to employ more Care and Attention upon the Larkſpur, he will find it very well returned: we ſhall direct the Method when we ſpeak of the Secret of raiſing ſtriped and double Flowers.

The ſeveral other Species are to be cultivated the ſame Way.

The principal of them are the great blue broad-leav'd Kind; the tall LARKSPUR with Monks-hood Leaves; and the Kind called Staves-Acre.

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4. AFRICAN GERANIUM.

Plate 1. Fig. 4. This Plant has every Recommendation to the Regard of thoſe who delight in Vegetables: Beauty of Flower, Fragrance, and a peculiar Elegance in its whole Aſpect. It is accordingly an univerſal Favourite; and of all Plants the moſt generally received in Greenhouſes.

The Vulgar call it GERANIUM without any farther Diſtinction; not conſidering there are a Multitude of Species of the Plants of that Name. The common Writers call it GERANIUM AFRICANUM. Its proper Name is GERANIUM *calicibus monophyllis foliis cordato-orbiculatis inciſis zona notatis.* *Geranium* with one leaved Cups, and with rounded, but ſomewhat Heart faſhioned Leaves marked with a Zone.

It is a ſhrubby but tender Plant, three Feet high, and irregularly, but not unelegantly ſpreading in its Branches.

The Leaves are large and roundiſh, but they are Heart-like at the Baſe, and indented at the Edge; and they are diſtinguiſhed by an elegant and conſpicuous Zone carried all round them.

The Flowers ſtand in large Tufts placed on the Summits of long Foot-ſtalks, and they are large and of a beautiful red.

The Seed-Veſſel is long, ſlender, and ſharp-pointed: it reſembles the Beak of a Crane, or other long-beak'd Bird, and the whole Genus has thence obtained the Engliſh Name of CRANES-BILL.

Each Flower examined ſeparately is found to be compoſed of five Petals, which are broad, irregular and expanded.

This ſtands in a Cup formed of a ſingle Leaf, and has in its Centre ten Filaments: theſe ſpread aſunder at the Tops; but toward the Bottom they unite, and form a tubular Body, and they have oblong Buttons or Antheræ, which turn upon them.

The Student remembering what we have ſaid of the Monadelphous Claſs under the Article HIBISCUS, will perfectly underſtand that he is to refer this Plant to the ſame Place: and obſerving that its Filaments are ten, he will know, that having referred it to the fourteenth Claſs, it belongs to the ſecond Section of it, and is one of the *Monadelphia Decandria*.

There are beſide this a Number of other AFRICAN GERANIUMS, which we ſhall particularize hereafter: and as they are all to be raiſed by the ſame Kind of Culture, we ſhall deliver the Method of it at large.

The Culture of the African GERANIUM.

The Soil in their native Place of Growth is ſo unlike what we have uſually in Gardens, that the Care of their Culture muſt be begun farther back than is needful for many other Plants.

This is neglected, and yet GERANIUMS live: but we propoſe to tell the Poſſeſſor of them more than to make them live; how he ſhall cauſe them to thrive and flouriſh.

The Cuſtom is to raiſe them in Pots of good Mould; and they will be very beautiful that Way: but in the Method we ſhall propoſe they will rival the glowing Beauty they wear in their natural Climate. There they grow principally where the Ground is warm, dry, and light, and yet has ſome Richneſs.

Such a Soil they find, formed of their own decayed Stalks, and others, mixed in a very ſandy Loam.

Nature directs thus, and 'tis the Buſineſs of Art to imitate it. What Reaſon in this Caſe points out, Experience has very happily confirmed; and we ſhall therefore give it freely to the Reader.

About the preſent Seaſon let an artificial Soil be prepared for theſe Plants thus.

Pare off the Surface of ſome Ground on which an old Stack of Wood has ſtood, and take only what is light and mellow.

This is a Kind of Earth compoſed of rotten Wood, and is like that of Willows, but more rich. To one Load of this add two Loads of good Garden-Mould, a Load and half of middling Sand, and half a Load of burnt Graſs Turf. Mix all theſe well together with Spade and Rake, and pile the whole in a Ridge, and let it thus lie till the Month of January. Then let it be thoroughly dug up and turned, and thrown together in a Ridge again, where it is to lie till the ſucceeding Summer, the Time of uſing it.

During this Interval, if Weeds appear upon it, they muſt be cut down with a Hoe, for they will exhauſt it; and the Intent is, that all its Richneſs ſhould go to the Nouriſhment of the Plants.

The artificial Soil being thus prepared, the Method of propagating the Plants comes under Conſideration. Their Seeds do not often come to a perfect Maturity with us, and the cutting grow eaſily: For this Reaſon it is beſt to uſe them for Propagation; and a large Number of Plants may be raiſed this Way with Speed and Succeſs in the following Manner.

Chuſe a Part of the Nurſery which is warm and well ſheltered, and is not too much expoſed to the Sun. Here prepare a Bed four Foot and a half wide, of what Length you pleaſe, and let it have a Foot and Half Depth of the fineſt Mould. Let the Mould lie half a Foot within the Ground, and a Foot above it; and let it be well broken and laid perfectly even.

At Diſtances place Hoops, that the whole may on Occaſion be covered with Matting; and on the Surface draw Lines for planting the Cuttings at two Foot Diſtance Row from Row, and two and a half in the Rows.

Let the practical Gardener take this Maxim as he goes, That Regularity of Planting is uſeful, even where the Things are never to be ſeen; for beſide the common Purpoſe of Beauty, it ſerves to diſtribute the Nouriſhment equally.

Toward the End of *May* is the Time for this Work; and when the Bed is thus prepar'd, let Cuttings be taken carefully from ſome good Kinds of GERANIUM, and from the moſt flouriſhing Plants.

Let theſe be immediately plac'd in the Mould, five Inches deep, and well ſet. Then give the Bed a Watering, and draw the Mat over it.

At Sun-ſet let the Mat be taken off, and ſo every Night; only drawing it on an Hour after Sun-riſe in the Morning. This will give them the Advantage of the Dews; and they are to be uncover'd in the ſame Manner in the Day, whenever there falls a moderate Shower.

They muſt alſo be water'd frequently and moderately, as the Condition of the Ground requires; and, by this Practice, in five Weeks, they will take good Root.

If the Cuttings were planted the third Week in *May*, they will thus have taken tolerable Root at the latter End of *June*; and they will, in a Month more, have ſhot ſo many additional Fibres, that they will be in a Condition to remove. Therefore, the laſt Week in *July* will be the proper Time for that Operation.

The artificial Soil is now to be once again very well work'd over; and the Pots, into which the GERANIUMS are to be put, muſt be filled with it. Theſe ſhould be of a middling Size.

Bring them to the Bed, and after Sun-ſet plant in the young GERANIUMS. Each is to be taken up carefully, with as much Earth to the Roots as will hang about them; in this Condition it is to be ſet upright in the Middle of the Pot, which is to be half empty'd for that Purpoſe: then the Remainder of the artificial Soil is to be carefully put in, and cloſ'd about the Plant.

When they are thus fix'd in the Pots, they muſt have a gentle Watering; and the Pots muſt be ſet upon the Bed where the Plants ſtood, and in the Morning the Mat drawn over them.

They muſt be manag'd exactly as the Cuttings were, when firſt put into the Ground, till they are very well rooted in the Pots: they muſt then be brought out into a more open Place, and water'd occaſionally, as the Condition of the Earth requires. About ten Days fixes them

August. very well in their Pots; and they are then to ſtand out till the End of Autumn, at which Time they are to be carry'd into the Green-houſe.

There is nothing in which the Generality of Gardeners fail ſo much as Planting: Time muſt be allow'd, and Care taken, in placing theſe young GERANIUMS in their Pots: and the Eye of the Maſter ſhould be over his Gardener at the doing it; for it is the laſt Trouble they require, and they will receive no Check from it, if rightly manag'd.

When they are in the Green-houſe, they muſt be ſet in the moſt airy Place, and not ſhelter'd by larger Plants. They muſt have, now and then, a little Water, and the Surface of the Earth muſt be ſtirr'd once in a Month. In Summer, when they are ſet out, the Earth ſhould be taken off two Inches deep, and its Place ſupply'd by a freſh Parcel of the ſame artificial Soil. August.

This was the Practice I caus'd to be obſerv'd at the late Lord PETRE's, at *Thorndon*, in *Eſſex*; and it was owing to this that his GERANIUMS excelled thoſe of all *Europe*.

5. OLEANDER.

This is a Plant eminently diſtinguiſh'd by its Beauty. The common or ſingle Kind has been always eſteem'd one of the greateſt Ornaments of a Green-houſe; but the double OLEANDER as much exceeds that, as the fineſt Garden-Flower the wild Weeds that grow near it. It is a well-known Plant: the vulgar call it ROSEBAY, the common Writers NERIUM and OLEANDER, and ſome RHODODENDRUM. Its proper Name is *Nerium foliis lineari-lanceolatis ternis.*

Plate I. Fig. 5.

It is a Native of almoſt all the warm Climates, *Syria*, *Paleſtine*, the *Indies*, and the *Greek* Iſlands; and it flouriſhes with us perfectly well, under that Degree of Care we allow our common Green-houſe Plants.

It is a ſhrubby Plant, of ſix Foot in Height: the Subſtance of the Stem is tender, and its Bark is brown. The young Branches are green and juicy. The Leaves are ſeven Inches long, an Inch broad; of a fine green on the upper Side, and ſilvery underneath. The Flowers are numerous, very large, and of a glorious Purple; they grow in Cluſters all over the upper Part of the Branches, and cover the Plant with a moſt elegant Colour.

We have repreſented them in the Figure ſingle and double: the latter is their Condition of moſt Elegance; but in the other we ſee them from the Hand of Nature; and it is there the Student is to trace their Structure, and learn the Claſs to which the Plant belongs.

Each Flower, examined carefully, is form'd of a ſingle Petal, narrow at the Baſe, and ſpreading to a great Breadth at the Verge, where it is divided by ſlight Segments, into five Parts. Within ſtands the NECTARIUM, which is of a ſingular Structure, and adds not a little to the Beauty of the Flower. It is a kind of Coronet, terminating the narrow or tubular Part; and it is divided into Capillary Segments.

Deeper in the Flower ſtand the Threads or Filaments, from which the Claſs of the Plant is to be learn'd: theſe are five in Number, and they are very ſhort, and lodg'd within the tubular Part: the Buttons or Antheræ are ſhap'd like Arrow-heads; they converge together, and they are terminated by long Threads like Hairs. In the Center, among theſe, ſtands the Rudiment of the Fruit; it is a roundiſh Button, ſplit at the Summit, and crown'd with Stigmata, or Tops, the Styles of which are ſcarce perceptible they are ſo ſhort. The Seed-veſſel is double, and the Seeds are wing'd with Down. The Flower ſtands in a ſmall Cup, form'd of a ſingle Piece, divided into five Segments, and this remains with the Fruit.

If the Student recollects what we have written concerning the Method of LINNÆUS, under the firſt Article, he will eaſily underſtand in what Manner this Plant is arrang'd in that Author's Syſtem: the Filaments are five, and of the common Diſpoſition: it is therefore one of the Genera of his Fifth Claſs. This he calls PENTANDRIA; a Term form'd of two *Greek* Words, as the others, and ſignifying a Plant in whoſe Flower the Male Parts are five.

From this, as in other Caſes, the Student will alſo extend his Knowledge; and obſerve that whatever other Plant he finds, in whoſe Flower there are five Filaments plainly diſpos'd, that is alſo of the *pentandrous* Claſs.

The Rudiment of the Fruit being ſingle, it belongs alſo to the firſt Section of this Claſs: it is therefore diſtinctly one of the PENTANDRIA MONOGYNIA of LINNÆUS.

Thus Nature ſhews the Flower of OLEANDER, but Culture renders it double, and ſometimes alſo ſtrip'd. In this Caſe, it conſiſts of numerous Petals, and in Form and Colour reſembles a fine Roſe; which it exceeds in Smell.

The *Amſterdam* Garden ſupply'd all *Europe* with this elegant Plant.

The Culture of the OLEANDER.

In Autumn prepare for it an artificial Soil, which is to lie all Winter for the ſucceeding Summer's Uſe, as in the former Inſtance. In *Holland*, they make it thus: Mix together two Loads of rich Garden Mould, a Load of rotted Leaves, from the Sweepings of the Garden, and half a Load of Sand. Let this be turn'd ſeveral Times during the Winter, and in this the double NERIUM is to be rais'd from Cuttings; for it rarely produces its Seeds, and ſcarce ever brings them to Perfection.

In the Middle of *May* let this Mixture be form'd into a Bed, of two Foot deep, and hoop'd for ſhading.

Plant good Cuttings as ſoon as the Bed is made up; water the Whole to ſettle the Earth to them, and cover it up two Days and Nights, admitting Air only at the Ends: After this, let the

Auguſt. the Covering be lifted off during the Night, and when there are Showers; and carefully kept on againſt the Sun, and parching Winds.

The third Week in *July*, bring as many large Pots as there are Plants in the Bed. Take up ſome of the Soil, and fill them to the Depth of ſix Inches; then carefully take up the Plants with as much Mould as can be made to hang to them. Set them even in the Pots, and fill up carefully with the ſame Mould: after this, manage them as the Geraniums, and they will riſe to their full Perfection.

One Reaſon why the Flowers and Green-houſe Plants of *England*, are inferior to thoſe of the neighbouring Countries, is, that too many of our Gardeners plant them all in the ſame Soil: thoſe who ſhould inform them, are more deficient in this than in moſt other Articles; they order good rich Mould for every one, and think there can be nothing better. Nothing can be more contradictory to Reaſon. Let them look out into the Fields of our own Country, and they will ſee ſome Plants on one kind of Soil, and others on another. Remove them interchangeably, and they will pine and languiſh. 'Tis ſo in other Countries; and thoſe who have written beſt upon the Subjects tell us ſo. We ſhall trace, in their Accounts, what is the natural Soil of each Plant, and form ſuch a one by Art for its Reception here. When we have ſeen the Reſult of this Practice at Home, or received certain Accounts of it from Correſpondents in other Countries, we ſhall acquaint the Reader with that Authority; in other Caſes, we ſhall propoſe what ſeems agreeable to Reaſon upon the ſame Principles, and recommend to him the Tryal.

6. CODAGA PALA.

Plate I. Fig. 6. This is a Shrub of the Nerium Kind, which has not, that I know, been brought into the *European* Gardens, but very well deſerves a Place, not only for its Beauty, but its Virtues. The Bark of it is the famous *Codaga Pala* or *Coneſti*, newly introduc'd into our Practice, and found ſovereign in Dyſenteries. Writers on Medicine call it by theſe *Indian* Names: its proper one is *Nerium foliis ovatis acuminatis petiolatis*; Rosebay, with ovated, pointed Leaves plac'd on Foot-ſtalks.

The Trunk is firm and woody, and the Branches ſpread: the Leaves are broad, and of a whitiſh green, and the Flowers are white and fragrant. It is a Native of *Malabar* and *Ceylon*, and it may be preſerved here, as other Plants, from that Part of the World. We ſhall hereafter give the Method, under proper Inſtances.

7. *Great flower'd* JASMINE.

Plate I. Fig. 7. We admire, with Reaſon, the common Jasmine of our Gardens; but this Shrub deſerves much greater Regard, having all its Perfections in a ſuperior Degree: a more beautiful Leaf, a better Form of Growth, and a larger, fairer, and more fragrant Flower. The Gardeners call it *Catalonian Jaſmine*. The common Writers, *Jaſminum minus*. Its proper Name is *Jaſminum humilius magno flore*.

It is a low but elegantly ſpreading Shrub. The Stem is woody, and covered with a grey Bark. The young Shoots are tender and green. The Leaves are pinnated, and of a lively green: three or more Pairs of Pinnæ ſtand on each Rib, and there is an odd one at the End.

The Flowers cover the Surface of the Shrub in ſcattered Bunches, four or five together, and they are large and elegant; their Colour is white on the Surface, but purple underneath, and they have often ſome purple on the Edge, and ſometimes a little yellow.

The Buds are wonderfully elegant, the purple ſhewing itſelf on them in its full Luſtre.

To learn to what Claſs in the Linnæan Syſtem this elegant Shrub belongs, the Student is to examine carefully the Flower. He finds this form'd of a ſingle Petal, and plac'd in a little Cup. The Cup is made of one Piece, as the Flower, and is divided at the Edge into five Segments. The Flower has for its Bottom a long Tube, which at the upper Part breaks into five vaſt ſpreading Segments, reſembling ſo many ſeparate Petals. Within the tubular Part of the Flower are plac'd the Filaments: they are only two; and from the Rudiment of the Fruit riſes a ſingle Style of the ſame Length with them, and it is ſplit at the Top. The Fruit ſucceeding is a Berry.

The Student is now ſenſible that the Number of Threads in a Flower, determines its Arrangement in the Linnæan Method. His ſecond Claſs comprehends Plants whoſe Flower has only two Filaments; and its Title is Diandria. The Name is form'd of two *Greek* Words, and expreſſes Plants whoſe Flower has only two Male Parts. The Style being ſingle, places it among thoſe of the firſt Section of that Claſs; and the Student, without more Information, knows that this is one of the Diandria Monogynia, as are alſo the other Jaſmines; and all Plants elſe of the ſame Character.

The beſt Method of Propagation, is to bud this upon the common Jaſmine; it loſes nothing of its Beauty by that Practice, and it becomes more hardy. This Method we ſhall deſcribe at large in a ſucceeding Number.

We have here, in theſe few Inſtances, led the Student a fair Advance in the Linnæan Syſtem; and inform'd the Gardener in the true Culture of ſo many Plants: not by Rote, or by tranſcribing from preceding Authors, but from Experience and Reaſon. We have now a few Rules to add reſpecting the Care of the Flower-Ground, the Seminary, the Kitchen and Fruit-Garden, for this Seaſon.

The Work of Summer is over, and that of Autumn is not yet begun, therefore leſs is required in theſe ſeveral Parts than at other Times: we are happy that this Circumſtance gave us Opportunity to enter ſomewhat at large on the more curious Part of our Work here, at the ſetting out.

Plate. 1st

Great Larkspur
Single Lark-spur
Fig leav'd Hibiscus
Scarlet Canna
Great flower'd Jasmine
Double Oleander
Single Oleander
Codaga Pala
African Geranium

Edwards del.

C. Edwards & Darly Sculp

CHAP. II.

The Care and Culture of the Flower-Garden, for the End of Auguſt.

THERE will be ſucceeding Numbers in which this Part of the Gardener's Province will make an Article of conſiderable Extent, but this is a Time when it is comprized under a few plain Articles.

Let him diſtinguiſh the Flowers of Summer which are going off, and thoſe of Autumn which are coming in.

With Reſpect of the firſt, let him mark thoſe he intends for Seed, and tie them up to Sticks, and cut down the Stalks of the others; and pull up thoſe which are annual and periſh after flowering.

Let him break the Mould about the Autumnal Plants that are coming to flower, cut off irregular Shoots, pick away dead Leaves, and give them every Evening a gentle Watering.

Let him clear all the Borders from Weeds; and gather ſuch Seeds as ripen; chuſing for this purpoſe the Afternoon of a dry Day.

Let him ſee his Graſs is cloſe mowed, and his Gravel clear and well rolled; and no more will be needful under this Article.

SECTION II.

The Buſineſs of the SEMINARY, *for the latter End of* Auguſt.

THE firſt Buſineſs of this Week, in the SEMINARY, muſt be to prepare Beds for Cuttings. Let each be two Foot deep, well dug, and broke; four Foot wide, and in a ſheltered Place.

Numbers of Shrubs are to be rais'd this Way; and they fall under two Heads; 1. The *tender*; 2. The *hardy:* the tender are to be planted in Summer: and we have ſhewn their Culture under the preceding Heads. The hardy are to be ſet in Autumn, and the Preparation may be made now.

Plant in this Bed Cuttings of Ever-greens, and of the hardier Shrubs. Shade and water them at firſt; water them afterwards at Times, and they will root ſafely and firmly.

Honey-ſuckles of the ſeveral Species, will ſucceed well from Cuttings planted in a Bed, tolerably expos'd, at this Time; and Laurel, in a Place where there comes leſs Sun. Let the Laurel be planted five Inches deep, and his Honey-ſuckles four. This, Experience ſhews the beſt Depth. The common Practice of laying Honey-ſuckles is more troubleſome; and the Cuttings, with tolerable Management, ſucceed as well.

Let the Gardener, when he has done this, go the Round among his Firs and other reſinous Trees: if the Wind, or Accident have broke a Branch, or if there be any that run out irregularly, this is the Time to retrench them. Let him ſecure the Wound from Injuries, by tying Leather over it, and they will be in no Danger. Thus ends his preſent Week's Employment in this Part.

SECTION III.

POMONA, or the FRUIT-GARDEN.

CHAP I.

Fruits now in Perfection.

THE Fruits to be named under this Head are the Remains of thoſe of Summer: we ſhall in the ſucceeding Numbers enter on a larger Store, treating thoſe of Autumn.

FAIRCHILD's Nectarine is now in its Perfection. It is a ſmall Kind, round, yellow toward the Wall, and on the ſunny Side, red: the Fleſh is juicy, and its Taſte very agreeable, but there is leſs of it than in moſt other Kinds.

The Elruge is now ripening, and is a fine Nectarine: it is larger than the former; yellowiſh toward the Wall, and purple on the ſunny Side. The Skin ſhrivels as it grows full ripe: The Fleſh is ſoft and melting, and it is of a fine Flavour.

Of the Peach Kind, the white Magdalene is now ripe. This is of a middle Size, round, and furrowed at the Side. Its Colour is white all over, or there is at the moſt, only a little daſh of red on the ſunny Side. The Fleſh is white, and parts from the Stone. It is a very well taſted Peach.

SMITH's Early Newington is alſo now ripening. This is middle ſized, round, and thick covered with a fine ſoft Down. It is of a pale green next the Wall; and of a fine Red on the ſunny Side. The fleſh is firm and pleaſant, and the Stone is purpliſh.

There is a Pear juſt ripe at this Time, which ſome eſteem greatly. This is the green Chiſſel. It is a middle ſized Pear of a longiſh Shape; ſmall toward the Stalk, and is always green. It is very juicy and delicate, but the Taſte is ſomewhat flat, eſpecially when too ripe. Therefore the Merit of this Pear, conſiſts in the gathering it when juſt ripening.

The principal Plumb for this Time is the Fotheringay. It is a large red Plumb, and of an oval Shape: It is naturally duſted over with a fine Blue Powder. There is a deep Furrow on the Side, and the Fleſh is white. It parts freely from the Stone, and is very ſweet.

Thoſe who diſlike Sweetneſs in Plumbs, are not fond of it for this Reaſon; but many admire it.

The *Turkey* Apricot is now in its Perfection. It reſembles the Orange Apricot, or common Kind, but it is larger and flatter, its Colour is yellow, and it is much marked with red.

The Gardeners are not fond of it, becauſe the Tree is not a plentiful Bearer, but the Fruit is excellent.

CHAP. II.

Of the Care and Management of Fruit-Trees.

HERE, as in the other Parts of the Ground, the ſame Method is to be followed, and the ſame Operations come in Courſe. The leſſer Fruit-Shrubs are at no Time ſo well tranſplanted as now; if there come a little Rain. The Currant and Gooſeberry will take at once, if they be water'd, tho' there fall little or no Wet from the Clouds: but the Raſpberry will not do well, unleſs it have natural Showers. There is more Care requir'd for this little Shrub than is commonly allow'd to it; and that is the Reaſon ſo many of the Plantations ſucceed poorly.

The common Writers of Gardening, copy from one another the Direction of planting Raſpberries in *September*; but that is too late. Warmth aſſiſts greatly in their Rooting; and upon the firſt Succeſs depends their future Strength. Whenever the End of *Auguſt* is ſhowery, as it is now; there is no Time ſo favourable for this Plantation.

Gather the ſeveral Standard Pears and Apples as they ripen. Many of them will not be fit for a Month yet to come; but thoſe which are ripe muſt be gathered. The practical Way to try, is this.

Gently turn up a few of them, and if they eaſily come off from the Boughs, it is a Proof they are ripe. In this Caſe, longer hanging would do them Harm: but if they hold firm, they muſt be left till they will part thus eaſily. More than is thought depends upon the exact Time of Gathering; for, if pull'd too ſoon, they never acquire their true Flavour; and, if too late, they do not keep well.

The later Peaches are now advancing toward Ripeneſs, and they muſt be favour'd by a careful and judicious Hand: their Leaves have hitherto ſerved the Purpoſe of ſheltering and keeping them moiſt; but now all ſuch as grow cloſe about them ſhould be remov'd. The Sun has leſs Power, and the Fruit requires more Heat; and leſs Moiſture.

This is a Time for preparing Strawberry Beds for another Year. Let them be made in a good Expoſure, and well dug. Let the Soil be a rich Loam, and let it be thoroughly broken: then let Lines be drawn regularly, at a Foot and a half Diſtance, and in theſe ſet the Strawberry Plants a Foot aſunder. Water them well: they will take good Root before the Froſts come on; and there will be a much larger Produce, and of finer Fruit, than in the common Way of Planting. Gardeners act according to their Inſtructions, and they place them cloſer; their Inſtructors have miſled them; and require Reviſal and Amendment in almoſt every Article.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Products of the Kitchen-Garden now in Seaſon.

THIS is a very plentiful Time of the Year for the Herbage Roots and Fruits of this Quarter; and we might, if we followed the ordinary Writers on this Subject, give a long Liſt of common Things: but the Herb-woman knows without our Information, that Cabbages and Carrots, Parſnips and Potatoes come every Day to Market.

Theſe Catalogues are the Abuſe of Writing; and their ſole Excuſe is, that they have been compiled by thoſe who did not know what is its Uſe, or Merit.

Beſide theſe, the good Kitchen Ground affords Finochia, now in Perfection; a Plant not enough known in our Country, which we ſhall endeavour in a ſucceeding Number to render more univerſal, by directing its right Culture. There are alſo Chardoons, and ſeveral valuable Melons.

CHAP. II.

Of the Care and Culture of the Kitchen-Garden.

THE Operations of the Flower-Garden and Seminary, are to be repeated in the Kitchen-Quarter, with little Variation, at this Seaſon. The ſweet Herbs and Medicinal Plants are now to be planted out, and the beſt Time is when it drips: if the Sky with-holds its Supply, the Labour of the Hand muſt takes its Place, for this Seaſon muſt not be paſs'd over; Sage and Thyme, Roſemary and Lavender, Mint, Baum, and Winter Savory, are all now to be planted. This early Time will let them root well before Winter, and they will be ſecure from Danger.

Endive and Lettuce, ſown in earlier Months, ſhould be now tranſplanted into warm and well ſhelter'd Borders, to ſtand thro' Winter. The Endive will be fit to blanch very early, and the Lettuces will cabbage ſoon in Spring.

Plant forward Beans and early Peaſe, chuſing a warm Situation, and deep good Ground. It will be worth while alſo to put ſome Carrot-Seed into the Ground. Obſerve, that it muſt be weeded as the Plants grow up, and they muſt be pull'd up to proper Diſtances. If they ſurvive the Winter they will come early to Perfection: but all depends upon their ſtanding diſtant and clear, otherwiſe they will be Threads, though of their full Length.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER II.

For the Firſt Week of *SEPTEMBER.*

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

1. COMMON CAPSICUM.

Sept.

Plate II. Fig. 1.

THIS is a Plant whoſe Singularity firſt gave it a Place in Gardens, which it has a Right always to preſerve. The Flower is inconſiderable, but the Fruit is conſpicuous, in the higheſt Degree: it ſerves the double Purpoſe alſo of Ornament and Uſe; for it affords an excellent Pickle.

Its vulgar Name is *Guinea Pepper:* the common Writers call it *Capſicum,* and *Piper Indicum.* LINNÆUS diſtinguiſhes it by the Name of *Capſicum caule herbaceo:* Capſicum with herbaceous Stalks.

The Plant is two Foot high, variouſly diffus'd in Branches, and but irregularly erect. The Leaves are undivided, long, and broad. The Flowers are moderately large, and of a whitiſh Colour, with a kind of purple Knob in the Centre. They hang on Foot-ſtalks from various Parts of the Plant.

The Fruit is very large, long, thick, and of a gloſſy Surface. Its Colour is an elegant Scarlet, and it reſembles poliſh'd Coral.

The Flower examined accurately, is found to be conſtructed of a ſingle Petal, tubular a little Way at the Bottom, and divided at the Top into five broad, folded, expanded, and pointed Segments. This Flower ſtands in a Cup, form'd of a ſingle Piece, divided at the Edge into five or more Parts, which remains with the Fruit: in the tubular Part of the Flower ariſe five Filaments: theſe are ſhort and ſmall, but their Buttons are oblong and large; they converge at the Top, and together form the Cluſter in the Centre of the Flower. In the Midſt of theſe ſtands the Style, which is ſingle and blunt at its Extremity.

Sept.

We obſerved to the Reader in our firſt Number, that the Fifth Claſs of LINNÆUS, comprehends under the Title of PENTANDRIA, thoſe Plants in whoſe Flowers are only five Threads, *Capſicum* is one of theſe; and the Style being ſingle, it is referred to the firſt Section of that Claſs. It is therefore one of the PENTANDRIA MONOGYNIA. Theſe Terms we have explained already; their Senſe is, that the Flower has five Male and one Female Part.

The Culture of CAPSICUM.

It is a Native of the warmeſt Climates of *America* and *Africa*; and is an annual Plant. It is one of thoſe the Gardener muſt raiſe on hot Beds in Spring, to plant out into his Borders in the Summer.

To do this properly, ſeveral of theſe Hot Beds are requir'd one to ſucceed the other: each is to receive the Plants which the former have thrown up from the Seed, or raiſed to ſome Bigneſs.

Let the firſt Hot Bed be made ready for the Seeds in *February*; the laſt Week of that Month will be the proper Time for ſowing them. Some do it later; but the Plants rais'd early have a

Sept.

great Advantage; and only moderate Care is requir'd to preſerve and manage them.

The Hot Bed being ready, ſow the Seed: diſtribute it carefully, and ſee that it be about three Quarters of an Inch covered.

About ſeventeen Days, with good Management, bring up the Plants; and this is the Gardener's Signal for preparing his ſecond Hot Bed. Common Mould does for covering the firſt; but, for this ſecond, ſome rotted Wood, or decay'd Leaves ſhould be wrought in; and about one fifth Part Sand. This is a Practice unknown to our Gardeners; but it is founded on Reaſon, and ſupported by Experience: the *Dutch*, with no Advantage beſide that Secret, exceed us in this Branch of Gardening greatly. It opens the Body of the Mould, gives Paſſage to the Vapours from the Dung, and makes the Way eaſy for the young Roots of the Plants. As much as the Mould is impoveriſh'd by the Sand, it is improv'd by the rotted Wood or Leaves, ſo that it retains its full Strength, and has great additional Lightneſs.

Let this Compoſt be ſpread upon the ſecond Hot Bed, five Inches deep; and when it is ready, and the Plants have ſome Strength, let them be remov'd into it in the following Manner.

With a ſmall Trowel open little Holes, three Inches deep, and at eight Inches diſtance, in the new Hot Bed: with the ſame Trowel raiſe the young Plants; carefully preſerve the Roots entire, and ſome Mould with them; and plant them regularly one in each Hole of the new Bed.

Fill up the Hole with its own Earth, and give them a gentle Watering.

On this depends the Shape of the Plants for Summer. In the *Paris* Gardens we never ſee an ill-ſhap'd *Capſicum*, and with us ſcarce a good one: the Reaſon is, their Care in watering them upon the firſt Tranſplantation. It is the Nature of the Plant to ſpread irregularly; but ours are generally deform'd: and the Cauſe is, that we bear down the tender Stalk of the young Plant in this Watering, which it does not recover. The Holes of our beſt Watering-Pots are too large. The *French* uſe one that does not hold above a Gallon; they never half fill it; and the Holes are fit only to let it in Hairs; thro' this the Water ſpreads every Way like the lighteſt natural Shower.

The young Plants are now to be kept covered at Night, and in the Day they are to have Air, by raiſing the Lid with a Brick.

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The better the Weather, the more Air let the Plants have; and take Care no Drops, hanging on the Inſide of the Cover, falls upon them. That would rot them; and the keeping them too cloſe would raiſe them weak: with this Management they will root quickly; and get Strength. They ſhould ſtand a Month in this Hot-Bed; and, at the End of that Time, they will require another.

This will appear a tedious Practice to the Unexperienced; but the Labour is not great, and it ſerves many other Plants at the ſame Time with this.

The Annuals are the great Grace of a Garden when the Spring and Summer-Flowers are gone: and they are ſo much of a Nature, that one Management ſerves for all. We ſhall, upon the ſucceeding Occaſions refer to this, and therefore have been the more particular in the Deſcription here.

The third Hot Bed muſt be covered deeper than the ſecond: and from this the *Capſicums* muſt be, after another Month, planted into ſmall Pots, to be placed in another.

This fourth and laſt Hot Bed muſt have a deep Frame: as many Pots as can ſtand by one another muſt be put into it, and the Space between them is to be filled up with Earth.

A fine rich Compoſt, like the firſt, muſt be put into theſe Pots; and in this the *Capſicums* muſt be planted with due Care.

While they are in this laſt Frame, the Cover muſt be more and more rais'd from Time to Time; and after about three Weeks, taking the Advantage of a warm cloudy Day, it muſt be taken off entirely.

Let this be repeated four or five Times in right Weather; and thus they will be hardened to the Air.

In the Middle of *July* they may be planted out into Borders, taking all the Earth of the Pot with them. Here they will require only gentle Waterings from Time to Time; and they will grow to full Perfection.

The Gardener has here the whole Proceſs of raiſing Annuals, before him at one View. We ſhall occaſionally, at the Seaſons, when each Part is to be done, treat it more expreſsly; but this is a ſufficient general Account of it; and by the Secret of this Compoſt he will ſucceed much beyond others.

2. GOLDEN CAPSICUM.

Plate II. Fig. 2.

This is not as the former an herbaceous Plant, but a robuſt Shrub. It is a Native of *Ceylon*, and has not, that I know, been raiſed in *Europe*; but with the common Care allowed to *Eaſt-Indian* Plants it may: and its gloſſy Leaf and golden Fruit would be a great Addition to the Variety and Beauty of the Plants we keep in our Stoves.

The adding to the limited Number of theſe Plants, ſhould be the great Endeavour of every Gardener.

This is a very elegant Species. Its Name accord-

Sept. according to Linnæus is *Capſicum Caule fruticoſo.*

The Shrub is five Feet high, and full of ſpreading Branches. The Leaves are long and narrow, of a gay gloſſy green; and veined with Purple. The Flowers are ſmall and white with purple Buttons in their Centre, and they are agreeably ſcattered over the Tops of the Branches. The Fruit is three quarters of an Inch long, and moderately thick; its Surface is gloſſy, as in the common *Capſicum*; but its Colour is a gold yellow. Sept.

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It is a vaſt Plant of a ſingular and noble Aſpect; and in its wild State, when well ſupported, eclipſes all the vegetable Kingdom.

Its Stem is weak and unable to ſupport itſelf; but it will climb the talleſt Trees; its main Trunk winding like a Serpent round them, and its innumerable Branches ſpreading over their broad Tops, and covering their whole Extent with Flowers and Fruit, both in the higheſt Degree beautiful; and hanging from the outmoſt Branches in innumerable long and ſlender Twigs, that play with the leaſt Wind, and are loaded with the ſame Flowers and Fruit. It is a Native of *South America*, but has been raiſed in *Holland* to its full Beauty.

The Trunk is covered with a rough grey Bark. The tender Stalks are green, and there riſe yellow Tendrils, with the Leaves.

Theſe are very large, oblong, broad, ſmooth, pointed at the Ends, wav'd at the Edges, and of a fine green.

The Flowers riſe with the Leaves and Tendrils uſually one Leaf, one Flower and one Tendril together; and for two Months of Autumn they are extremely numerous. They are very large, and of a Lilly Whiteneſs, variegated on the central Part with blue, red and yellow.

The Fruit follows ſingly each Flower, and is of the Shape and Size of an Orange, and of a Gold yellow.

The Flower more cloſely examined diſcloſes more Beauty. It is placed in a large Cup compoſed of five coloured Leaves, which are large, long and pointed: the Body of the Flower is formed of ſeveral very broad and long Petals, which naturally ſpread out, and afterwards fall backwards: theſe are of a perfect ſnowy Whiteneſs. Within them is placed the *Nectarium*, forming a triple Coronet. The outer Circle of theſe three is large, and compoſed of long, ſlender twiſted Filaments, and is of a celeſtial blue: this ſtands within the Circle of the Petals, and ſurrounds the Style. The others are ſhorter, ſmaller, and paler coloured.

The Filaments riſe within the inner Coronet of the Nectarium, and they are in Number *five.* They are fixed at the Baſe of the Rudiment of the Fruit, and to the Style, which is there of a columnar Form; and they ſpread outwards as they riſe in Height. They are ſlender, and of an Orange Scarlet. The Buttons that lie on theſe are oblong and obtuſe.

From the Parts where the Filaments are inſerted, the Body of the Style riſes upright, columnar and ſtrait; and at its Top from an oval Bud, which is the Rudiment of the Fruit, there ſpread three Diviſions which are largeſt towards the Extremity, and are there crowned each with a Kind of Head.

Such the Structure of this wonderful Flower; and it is in general common to the other Species of the ſame Name.

The World is indebted to Linnæus for explaining what that ſingular Part, the *Nectarium* of a Flower, is: it appears very particular in many as we have ſhewn, but in none ſo much as in this: and till we knew that ſuch a Part was common to moſt Flowers, and perſpicuous in many, none underſtood what this triple Circle in the *Paſſion Flower* was, or by what Name to call it.

Hereafter the Student will know, that when beſide the Cup, the Petals, the Filaments, and the Style, he ſees in any Flower ſome other ſingular Part, that is its *Nectarium.*

The Form is quite inconſtant and uncertain; for Nature in no Part of Plants wantons ſo much, but whatever be its Figure, this is its Name.

Our Student who has been taught to refer Plants to their Claſs in the Linnæan Syſtem by the Number of their Filaments, muſt not raſhly call this one of the *Pentandria* of that Author, becauſe thoſe Filaments are five.

The Number of thoſe Threads characteriſes the Claſs only when they have the common and natural Situation, and riſe free from the Bottom of the Flower; not when they are joined to one another, or to the female Part.

This we have obſerved to him before. Therefore as they are in this Flower joined to the female Part or Style, they conſtitute a new Character. This is the Diſtinction of a peculiar Claſs in the Linnæan Syſtem, which he calls *Gynandria.* It is a *Greek* Term formed of two Words, as the others; and expreſſes Plants in whoſe Flower the male Parts grow upon the female.

This is the twentieth Claſs of Linnæus; his whole Syſtem being compriſed in twenty-four: and the *Paſſiflora* is of the fourth Section of that Claſs; the firſt Section comprehending thoſe which have only two Filaments, the ſecond, thoſe

Sept.

thoſe which have three; and the third, ſuch at have four.

As we have recommended to the curious the introducing this elegant Plant, we ſhall particulariſe its Culture.

The Seeds will ſhoot freely, and the Care muſt be to find what Degree of Heat is neceſſary for the Plants; or in better Terms, what Degree of Expoſure they will bear. This is a Point in which our Gardeners that have the Care of exotic Plants, err more than any other; and there is none in which their Inſtructors in Books ſo much miſlead them.

Many Plants are ſmothered in Stoves, that would flouriſh in the Greenhouſe; and many encumber the Greenhouſe, that would thrive in the open Air. We ſhall occaſionally ſet this Part of practical Knowledge on a better Footing.

With Reſpect to the preſent Plant, let the Method obſerved in the raiſing it be this:

Let good Seeds be procured, and in the Beginning of *April* let a Dozen and a half of them be ſowed in a ſmall Pot filled with rich Garden-Mould, worked well, with one fourth Part of Pit-Sand.

Let this Pot be plunged into a moderate Hot-Bed, and there remain till the Seeds ſhoot: when the Plants have a little Height.

Let all but one be tranſplanted into ſeparate Pots, and let theſe, with the other, be ſet in another Hot-Bed, where they may be train'd to ſome Strength.

Then let ſome of the Pots be ſet in a warm ſheltered Place in the open Air; others in the Greenhouſe; and others in the Stove.

From this Time let them have the common Care that is beſtow'd on other Plants, in the Places where they ſeverally ſtand.

Sept.

Let a little Water be given them at Times, and let the Pots ſtand near the Back of the Building. Let them be led to climb, by placing Sticks in an oblique Direction, and leaning backwards. From Time to Time let any decay'd Leaves that are ſeen on them, be pick'd off, and let them be train'd to the Wall. They will ſpread over it, riſe to the Roof, and, being properly ſupported, they will take their Courſe, covering it, as they naturally do the Tops of Trees, and ſpreading their long Boughs to the Front, which will hang down the Windows.

The Particulars of the Care of Stove and Green-houſe Plants will be illuſtrated occaſionally by Examples in the ſucceeding Numbers: we here lead the Way to it, by giving, with the Characters of the preſent Plant, this general Idea of its Culture.

Where Cuttings are to be had, it will riſe freely from them, and much Time will be ſav'd but the Plants will not be altogether ſo fine.

The common *Paſſion-Flower* which we ſee climb upon Walls and Houſes, is much hardier than this; and requires leſs Care. It is beſt propagated by laying down the Branches. Theſe will take root freely, and may be very well removed the next Year. They will ſtand the common Winters with us unhurt; and when there comes a ſevere one, if the whole Plant periſh to the Ground, the Root commonly eſcapes, and ſhoots up again with Vigour the next Spring.

The right Time of removing this Plant is the Beginning of *April*, and it ſucceeds beſt againſt a ſouth-weſt Wall.

4. *Spotted* CISTUS.

Plate II. Fig. 4.

This is a Shrub of very ſingular Beauty, and is valuable for the long Time it continues flowering.

It often begins to diſcloſe its Beauties early in *Auguſt*, and continues in Perfection by the Succeſſion of Flowers till the Middle of *September*.

Our Gardeners call it the great *Rock Roſe*, the common Writers *Ciſtus Ladanifera*, and *Ciſtus Ledon*: its proper Name is *Ciſtus arboreſcens foliis lanceolatis ſupra lævibus Petiolis baſi coalitis vaginantibus*: Tree Ciſtus with Spear-pointed Leaves, ſmooth on the upper Side, with hollowed united Foot-Stalks.

Theſe Names given by LINNÆUS are long, but they are worth Attention and Remembrance; becauſe they convey a diſtinct Knowledge of the Plant. They are ſhort Deſcriptions.

It grows to ſeven Foot high, a ſpreading and well faſhioned Shrub; the Stem is woody, and the Bark is blackiſh.

The young Shoots are ſlender, and of a gloſſy Purple. The Leaves are placed irregularly, and are long, narrow, wav'd at the Edges, of a deep green above, and white beneath. Thoſe toward the Top are in the Plant's Perfection covered with a tranſparent fragrant Reſin.

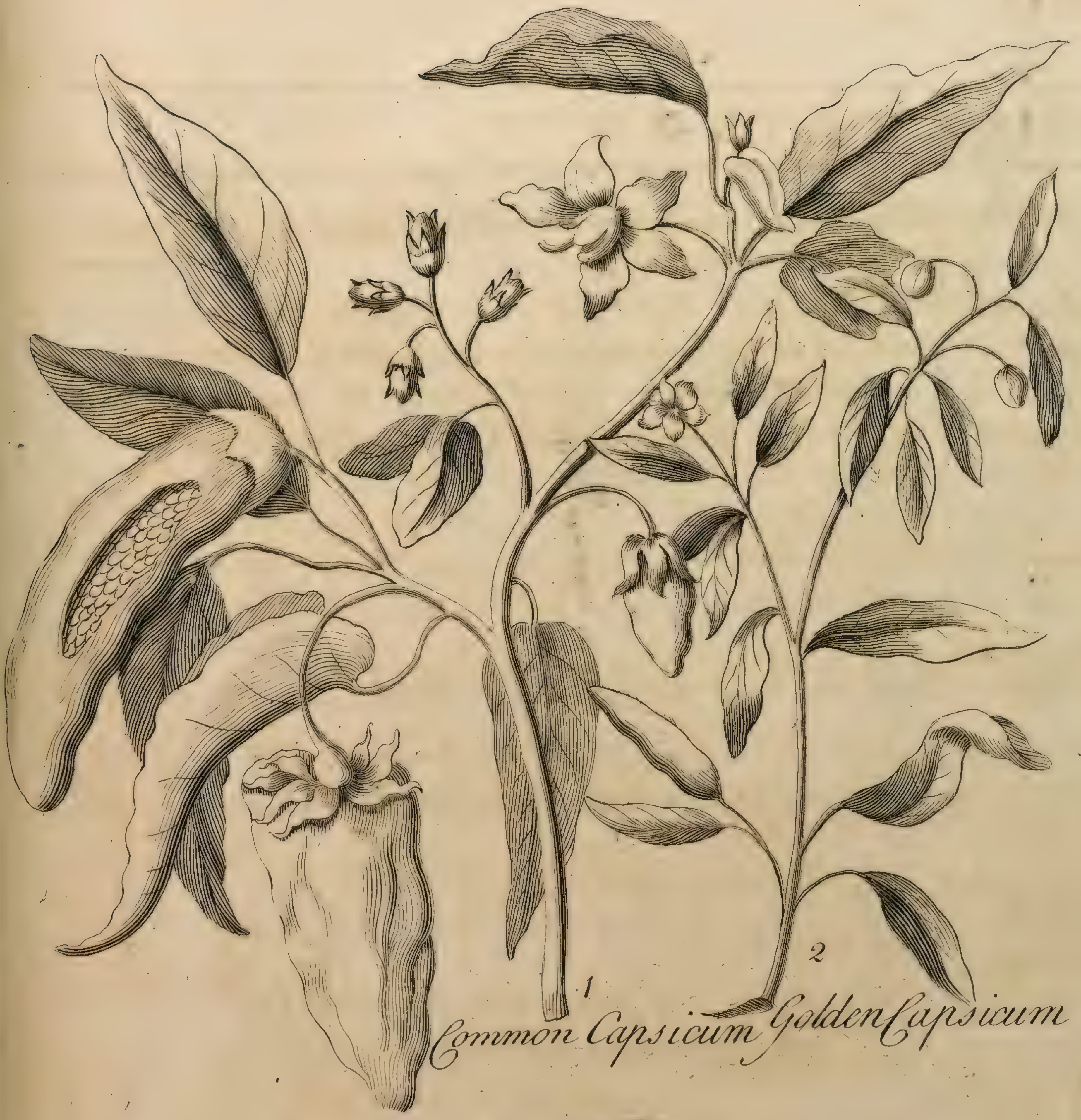
The Flower is vaſt, and naturally of a delicate white: it is ſtained ſometimes toward the Edges with red, and ſometimes red entirely. In the Centre is a Tuft of Threads with yellow Buttons; and toward the Baſe of every Petal there is a lively black Spot. Each Flower is followed by a large Seed-Veſſel filled with very ſmall and very numerous Seeds.

The Flower examined ſeparately, is ſeen placed in a five leav'd Cup; two of whoſe Leaves are ſmaller than the others.

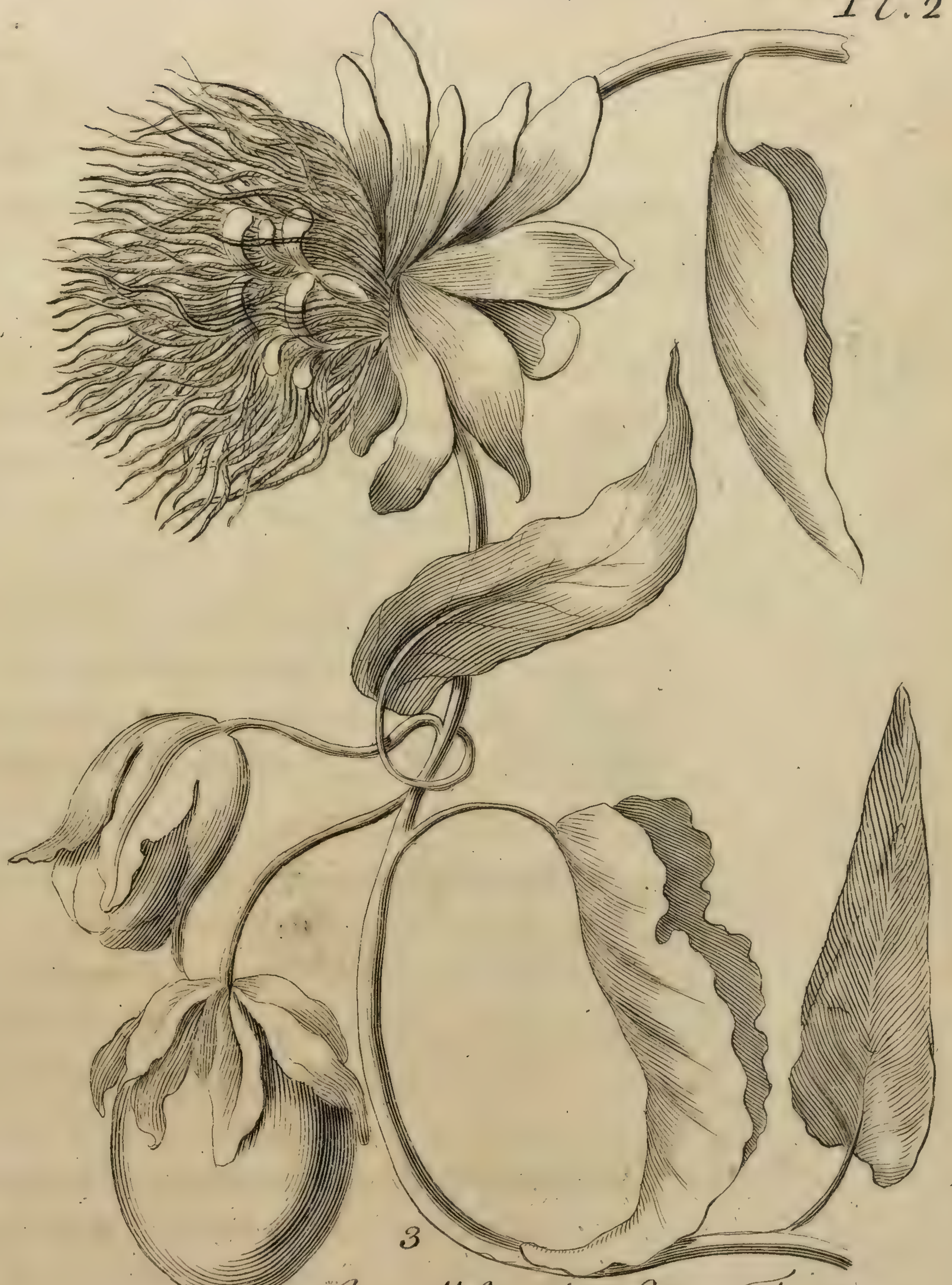
The Body of the Flower is compoſed naturally of five Petals; but the Luxuriance of Culture ſometimes adds a ſixth.

The Filaments are very numerous: they fill their Centre of the Flower, and they adhere at the Baſes, not to the Cup, but to the Receptacle. This is a Diſtinction much to be regarded; for on it depends the Arrangement of the Plant.

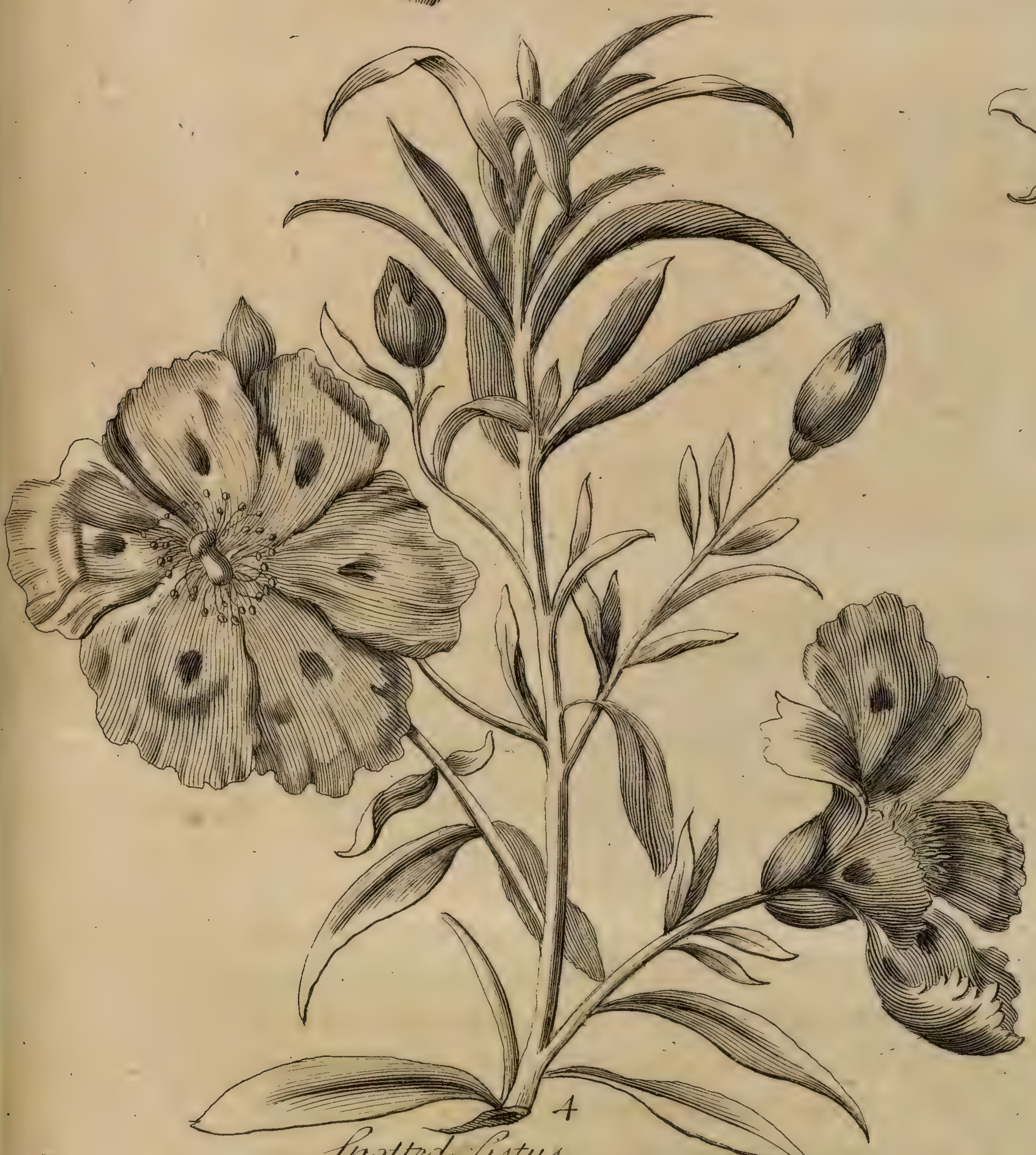
Pl. 2



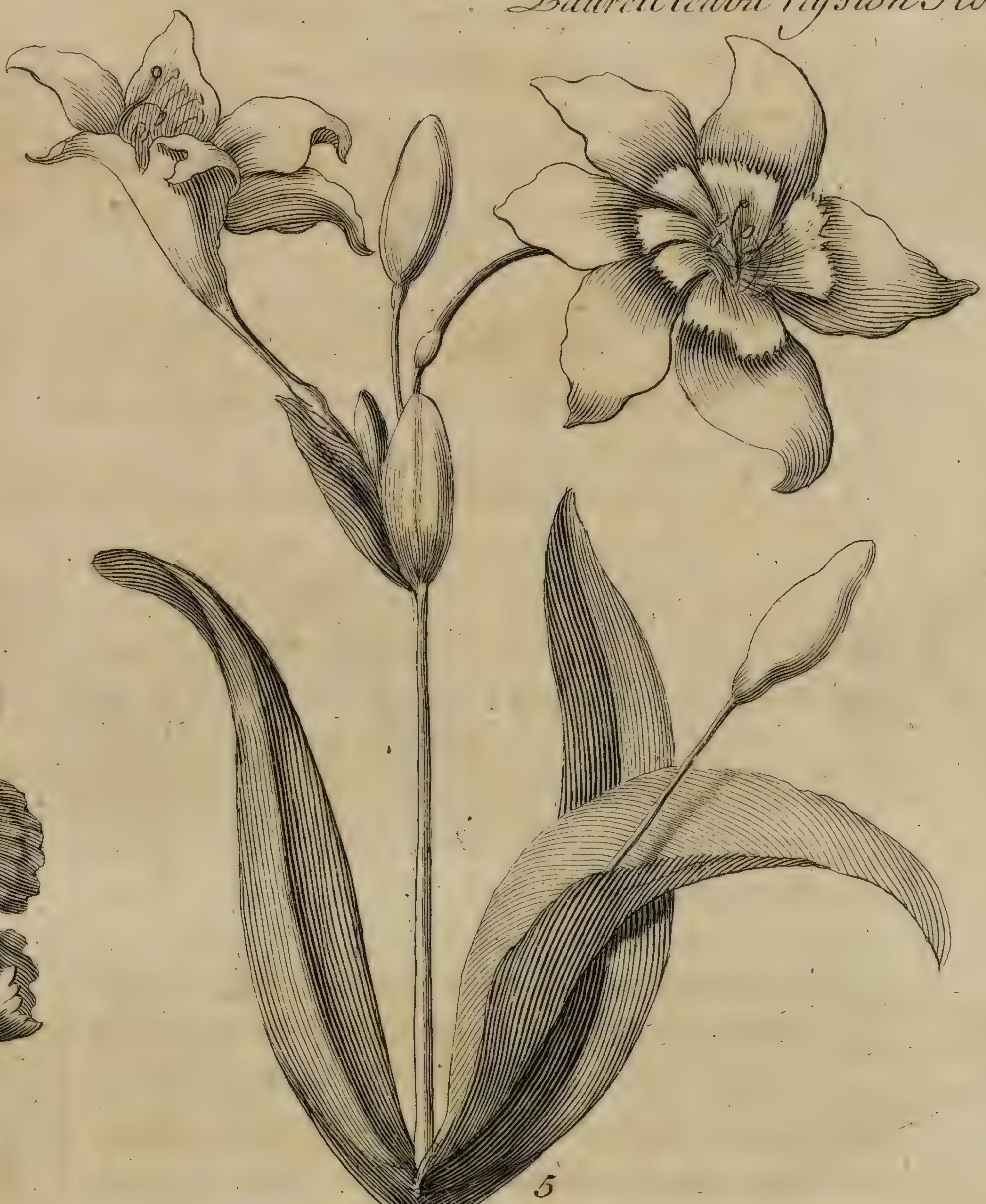
Common Capsicum Golden Capsicum



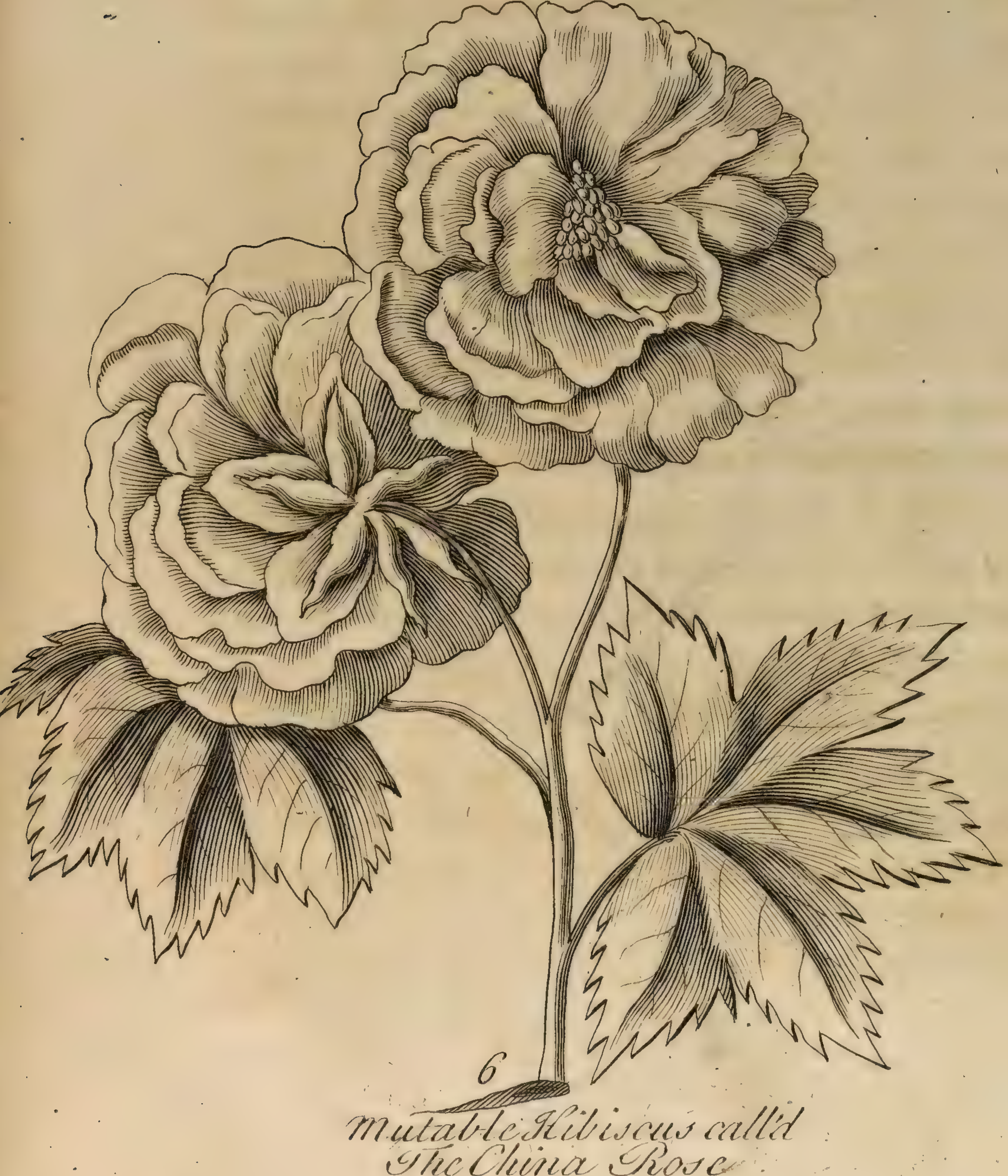
Laurell leav'd Paſsion Flower



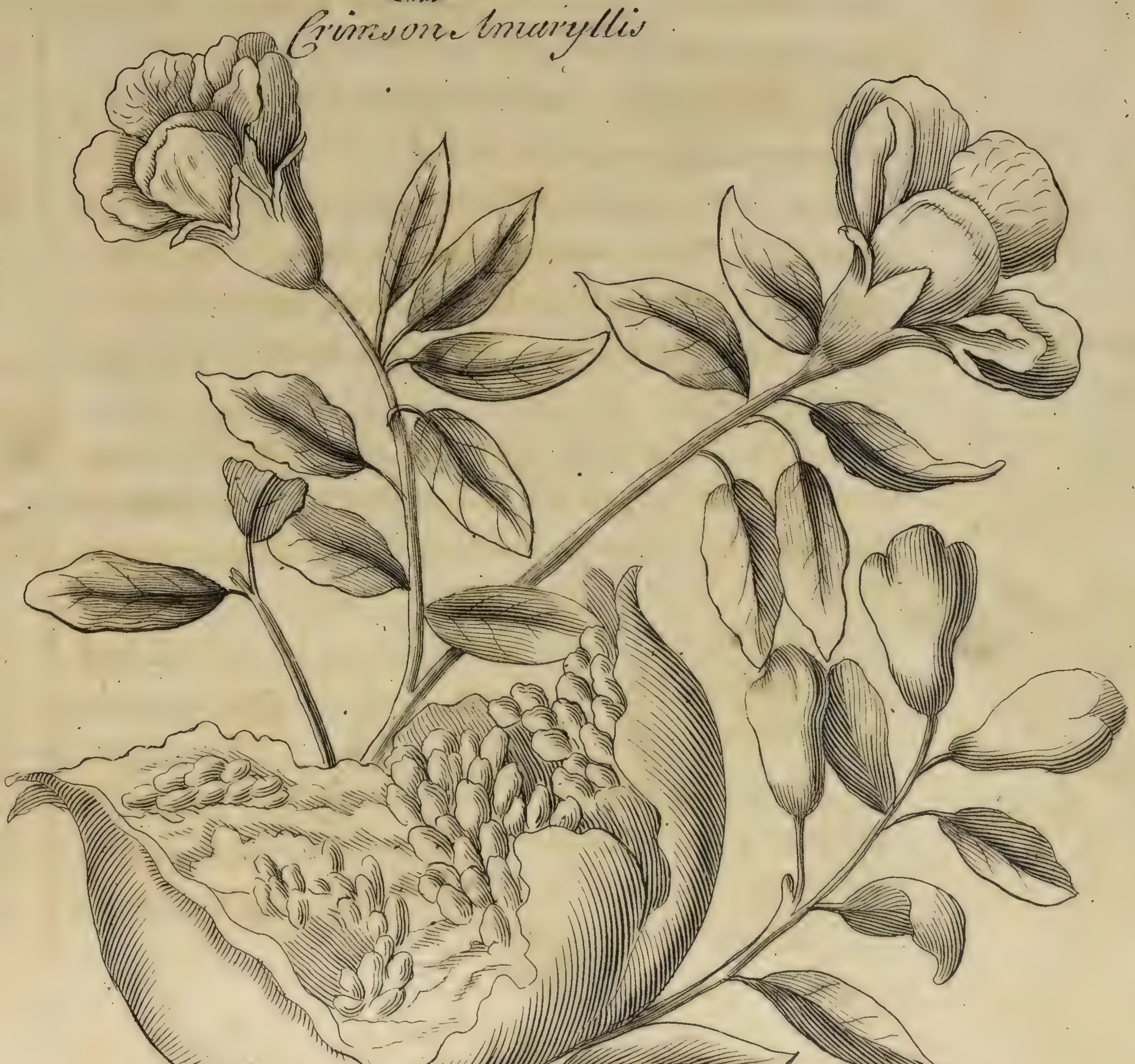
Spotted Cistus



Crimson Amaryllis



Mutable Hibiscus call'd The China Rose



The Pomegranate

E D E N:

A
COMPLEAT BODY of GARDENING.

NUMBER II.
For the Firſt Week of *SEPTEMBER*.

SECTION I.
FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.
Curious Plants and Flowers now in their Perfection.

1. COMMON CAPSICUM.

Sept.

Plate II. Fig. 1.

THIS is a Plant whoſe Singularity firſt gave it a Place in Gardens, which it has a Right always to preſerve. The Flower is inconſiderable, but the Fruit is conſpicuous, in the higheſt Degree: it ſerves the double Purpoſe alſo of Ornament and Uſe; for it affords an excellent Pickle.

Its vulgar Name is *Guinea Pepper:* the common Writers call it *Capſicum*, and *Piper Indicum*. LINNÆUS diſtinguiſhes it by the Name of *Capſicum caule herbaceo:* Capſicum with herbaceous Stalks.

The Plant is two Foot high, variouſly diffus'd in Branches, and but irregularly erect. The Leaves are undivided, long, and broad. The Flowers are moderately large, and of a whitiſh Colour, with a kind of purple Knob in the Centre. They hang on Foot-ſtalks from various Parts of the Plant.

The Fruit is very large, long, thick, and of a gloſſy Surface. Its Colour is an elegant Scarlet, and it reſembles poliſh'd Coral.

The Flower examined accurately, is found to be conſtructed of a ſingle Petal, tubular a little Way at the Bottom, and divided at the Top into five broad, folded, expanded, and pointed Segments. This Flower ſtands in a Cup, form'd of a ſingle Piece, divided at the Edge into five or more Parts, which remains with the Fruit: in the tubular Part of the Flower ariſe five Filaments: theſe are ſhort and ſmall, but their Buttons are oblong and large; they converge at the Top, and together form the Cluſter in the Centre of the Flower. In the Midſt of theſe ſtands the Style, which is ſingle and blunt at its Extremity.

Sept.

We obſerved to the Reader in our firſt Number, that the Fifth Claſs of LINNÆUS, comprehends under the Title of PENTANDRIA, thoſe Plants in whoſe Flowers are only five Threads, *Capſicum* is one of theſe; and the Style being ſingle, it is referred to the firſt Section of that Claſs. It is therefore one of the PENTANDRIA MONOGYNIA. Theſe Terms we have explained already; their Senſe is, that the Flower has five Male and one Female Part.

The Culture of CAPSICUM.

It is a Native of the warmeſt Climates of *America* and *Africa*; and is an annual Plant. It is one of thoſe the Gardener muſt raiſe on hot Beds in Spring, to plant out into his Borders in the Summer.

To do this properly, ſeveral of theſe Hot Beds are requir'd one to ſucceed the other: each is to receive the Plants which the former have thrown up from the Seed, or raiſed to ſome Bigneſs.

Let the firſt Hot Bed be made ready for the Seeds in *February*; the laſt Week of that Month will be the proper Time for ſowing them. Some do it later; but the Plants rais'd early have a great Advantage; and only moderate Care is requir'd to preſerve and manage them.

The Hot Bed being ready, ſow the Seed: diſtribute it carefully, and ſee that it be about three Quarters of an Inch covered.

About ſeventeen Days, with good Management, bring up the Plants; and this is the Gardener's Signal for preparing his ſecond Hot Bed. Common Mould does for covering the firſt; but, for this ſecond, ſome rotted Wood, or decay'd Leaves ſhould be wrought in; and about one fifth Part Sand. This is a Practice unknown to our Gardeners; but it is founded on Reaſon, and ſupported by Experience: the *Dutch*, with no Advantage beſide that Secret, exceed us in this Branch of Gardening greatly. It opens the Body of the Mould, gives Paſſage to the Vapours from the Dung, and makes the Way eaſy for the young Roots of the Plants. As much as the Mould is impoveriſh'd by the Sand, it is improv'd by the rotted Wood or Leaves, ſo that it retains its full Strength, and has great additional Lightneſs.

Let this Compoſt be ſpread upon the ſecond Hot Bed, five Inches deep; and when it is ready, and the Plants have ſome Strength, let them be remov'd into it in the following Manner.

With a ſmall Trowel open little Holes, three Inches deep, and at eight Inches diſtance, in the new Hot Bed: with the ſame Trowel raiſe the young Plants; carefully preſerve the Roots entire, and ſome Mould with them; and plant them regularly one in each Hole of the new Bed.

Fill up the Hole with its own Earth, and give them a gentle Watering.

On this depends the Shape of the Plants for Summer. In the *Paris* Gardens we never ſee an ill-ſhap'd *Capſicum*, and with us ſcarce a good one: the Reaſon is, their Care in watering them upon the firſt Tranſplantation. It is the Nature of the Plant to ſpread irregularly; but ours are generally deform'd: and the Cauſe is, that we bear down the tender Stalk of the young Plant in this Watering, which it does not recover. The Holes of our beſt Watering-Pots are too large. The *French* uſe one that does not hold above a Gallon; they never half fill it; and the Holes are fit only to let it in Hairs; thro' this the Water ſpreads every Way like the lighteſt natural Shower.

The young Plants are now to be kept covered at Night, and in the Day they are to have Air, by raiſing the Lid with a Brick.

The better the Weather, the more Air let the Plants have; and take Care no Drops, hanging on the Inſide of the Cover, falls upon them. That would rot them; and the keeping them too cloſe would raiſe them weak: with this Management they will root quickly; and get Strength. They ſhould ſtand a Month in this Hot-Bed; and, at the End of that Time, they will require another.

This will appear a tedious Practice to the Unexperienced; but the Labour is not great, and it ſerves many other Plants at the ſame Time with this.

The Annuals are the great Grace of a Garden when the Spring and Summer-Flowers are gone: and they are ſo much of a Nature, that one Management ſerves for all. We ſhall, upon the ſucceeding Occaſions refer to this, and therefore have been the more particular in the Deſcription here.

The third Hot Bed muſt be covered deeper than the ſecond: and from this the *Capſicums* muſt be, after another Month, planted into ſmall Pots, to be placed in another.

This fourth and laſt Hot Bed muſt have a deep Frame: as many Pots as can ſtand by one another muſt be put into it, and the Space between them is to be filled up with Earth.

A fine rich Compoſt, like the firſt, muſt be put into theſe Pots; and in this the *Capſicums* muſt be planted with due Care.

While they are in this laſt Frame, the Cover muſt be more and more rais'd from Time to Time; and after about three Weeks, taking the Advantage of a warm cloudy Day, it muſt be taken off entirely.

Let this be repeated four or five Times in right Weather; and thus they will be hardened to the Air.

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The Trunk is covered with a rough grey Bark. The tender Stalks are green, and there riſe yellow Tendrils, with the Leaves.

Theſe are very large, oblong, broad, ſmooth, pointed at the Ends, wav'd at the Edges, and of a fine green.

The Flowers riſe with the Leaves and Tendrils uſually one Leaf, one Flower and one Tendril together; and for two Months of Autumn they are extremely numerous. They are very large, and of a Lilly Whiteneſs, variegated on the central Part with blue, red and yellow.

The Fruit follows ſingly each Flower, and is of the Shape and Size of an Orange, and of a Gold yellow.

The Flower more cloſely examined diſcloſes more Beauty. It is placed in a large Cup compoſed of five coloured Leaves, which are large, long and pointed: the Body of the Flower is formed of ſeveral very broad and long Petals, which naturally ſpread out, and afterwards fall backwards: theſe are of a perfect ſnowy Whiteneſs. Within them is placed the *Nectarium*, forming a triple Coronet. The outer Circle of theſe three is large, and compoſed of long, ſlender twiſted Filaments, and is of a celeſtial blue: this ſtands within the Circle of the Petals, and ſurrounds the Style. The others are ſhorter, ſmaller, and paler coloured.

The Filaments riſe within the inner Coronet of the Nectarium, and they are in Number *five.* They are fixed at the Baſe of the Rudiment of the Fruit, and to the Style, which is there of a columnar Form; and they ſpread outwards as they riſe in Height. They are ſlender, and of an Orange Scarlet. The Buttons that lie on theſe are oblong and obtuſe.

From the Parts where the Filaments are inſerted, the Body of the Style riſes upright, columnar and ſtrait; and at its Top from an oval Bud, which is the Rudiment of the Fruit, there ſpread three Diviſions which are largeſt towards the Extremity, and are there crowned each with a Kind of Head.

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Hereafter the Student will know, that when beſide the Cup, the Petals, the Filaments, and the Style, he ſees in any Flower ſome other ſingular Part, that is its *Nectarium.*

The Form is quite inconſtant and uncertain; for Nature in no Part of Plants wantons ſo much, but whatever be its Figure, this is its Name.

Our Student who has been taught to refer Plants to their Claſs in the Linnæan Syſtem by the Number of their Filaments, muſt not raſhly call this one of the *Pentandria* of that Author, becauſe thoſe Filaments are five.

The Number of thoſe Threads characteriſes the Claſs only when they have the common and natural Situation, and riſe free from the Bottom of the Flower; not when they are joined to one another, or to the female Part.

This we have obſerved to him before. Therefore as they are in this Flower joined to the female Part or Style, they conſtitute a new Character. This is the Diſtinction of a peculiar Claſs in the Linnæan Syſtem, which he calls *Gynandria.* It is a *Greek* Term formed of two Words, as the others; and expreſſes Plants in whoſe Flower the male Parts grow upon the female.

This is the twentieth Claſs of Linnæus; his whole Syſtem being compriſed in twenty-four: and the *Paſſiflora* is of the fourth Section of that Claſs; the firſt Section comprehending thoſe which have only two Filaments, the ſecond, thoſe which have three; and the third, ſuch at have four.

As we have recommended to the curious the introducing this elegant Plant, we ſhall particulariſe its Culture.

The Seeds will ſhoot freely, and the Care muſt be to find what Degree of Heat is neceſſary for the Plants; or in better Terms, what Degree of Expoſure they will bear. This is a Point in which our Gardeners that have the Care of exotic Plants, err more than any other; and there is none in which their Inſtructors in Books ſo much miſlead them.

Many Plants are ſmothered in Stoves, that would flouriſh in the Greenhouſe; and many encumber the Greenhouſe, that would thrive in the open Air. We ſhall occaſionally ſet this Part of practical Knowledge on a better Footing.

With Reſpect to the preſent Plant, let the Method obſerved in the raiſing it be this:

Let good Seeds be procured, and in the Beginning of *April* let a Dozen and a half of them be ſowed in a ſmall Pot filled with rich Garden-Mould, worked well, with one fourth Part of Pit-Sand.

Let this Pot be plunged into a moderate Hot-Bed, and there remain till the Seeds ſhoot: when the Plants have a little Height.

Let all but one be tranſplanted into ſeparate Pots, and let theſe, with the other, be ſet in another Hot-Bed, where they may be train'd to ſome Strength.

Then let ſome of the Pots be ſet in a warm ſheltered Place in the open Air; others in the Greenhouſe; and others in the Stove.

From this Time let them have the common Care that is beſtow'd on other Plants, in the Places where they ſeverally ſtand.

Let a little Water be given them at Times; and let the Pots ſtand near the Back of the Building. Let them be led to climb, by placing Sticks in an oblique Direction, and leaning backwards. From Time to Time let any decay'd Leaves that are ſeen on them, be pick'd off, and let them be train'd to the Wall. They will ſpread over it, riſe to the Roof, and, being properly ſupported, they will take their Courſe, covering it, as they naturally do the Tops of Trees, and ſpreading their long Boughs to the Front, which will hang down the Windows.

The Particulars of the Care of Stove and Green-houſe Plants will be illuſtrated occaſionally by Examples in the ſucceeding Numbers: we here lead the Way to it, by giving, with the Characters of the preſent Plant, this general Idea of its Culture.

Where Cuttings are to be had, it will riſe freely from them, and much Time will be ſav'd but the Plants will not be altogether ſo fine.

The common *Paſſion-Flower* which we ſee climb upon Walls and Houſes, is much hardier than this; and requires leſs Care. It is beſt propagated by laying down the Branches. Theſe will take root freely, and may be very well removed the next Year. They will ſtand the common Winters with us unhurt; and when there comes a ſevere one, if the whole Plant periſh to the Ground, the Root commonly eſcapes, and ſhoots up again with Vigour the next Spring.

The right Time of removing this Plant is the Beginning of *April*, and it ſucceeds beſt againſt a ſouth-weſt Wall.

4. *Spotted* CISTUS.

Plate II. Fig. 4. This is a Shrub of very ſingular Beauty, and is valuable for the long Time it continues flowering.

It often begins to diſcloſe its Beauties early in *Auguſt*, and continues in Perfection by the Succeſſion of Flowers till the Middle of *September*.

Our Gardeners call it the great *Rock Roſe*, the common Writers *Ciſtus Ladanifera*, and *Ciſtus Ledon:* its proper Name is *Ciſtus arboreſcens foliis lanceolatis ſupra lævibus Petiolis baſi coalitis vaginantibus:* Tree Ciſtus with Spear-pointed Leaves, ſmooth on the upper Side, with hollowed united Foot-Stalks.

Theſe Names given by LINNÆUS are long, but they are worth Attention and Remembrance; becauſe they convey a diſtinct Knowledge of the Plant. They are ſhort Deſcriptions.

It grows to ſeven Foot high, a ſpreading and well faſhioned Shrub; the Stem is woody, and the Bark is blackiſh.

The young Shoots are ſlender, and of a gloſſy Purple. The Leaves are placed irregularly, and are long, narrow, wav'd at the Edges, of a deep green above, and white beneath. Thoſe toward the Top are in the Plant's Perfection covered with a tranſparent fragrant Reſin.

The Flower is vaſt, and naturally of a delicate white: it is ſtained ſometimes toward the Edges with red, and ſometimes red entirely. In the Centre is a Tuft of Threads with yellow Buttons; and toward the Baſe of every Petal there is a lively black Spot. Each Flower is followed by a large Seed-Veſſel filled with very ſmall and very numerous Seeds.

The Flower examined ſeparately, is ſeen placed in a five leav'd Cup; two of whoſe Leaves are ſmaller than the others.

The Body of the Flower is compoſed naturally of five Petals; but the Luxuriance of Culture ſometimes adds a ſixth.

The Filaments are very numerous: they fill their Centre of the Flower, and they adhere at the Baſes, not to the Cup, but to the Receptacle. This is a Diſtinction much to be regarded; for on it depends the Arrangement of the Plant.

SECTION II.

The Buſineſs of the SEMINARY, *for the Beginning of* September.

THE Seaſon for tranſplanting is at hand, and there are many thouſand Seedlings whoſe Size does not fit them for their Places in the Garden, though they require to be remov'd from thoſe where they were rais'd. Some Borders muſt be allotted for this Service, and now is the Time to dig them: if they are loamy and rich, and tolerably freſh, nothing is needed more than good ſound digging and breaking with the Spade. If the natural Earth be too tough, throw in Aſhes; and, if exhauſted by repeated Growths, dig in good mellow and well rotted Dung; but not too much of it.

Go the full Spade deep in every Part, break every Clod, and take up every Fragment of a Root that comes in the way. The Dews will mellow and enrich the Soil; and to their Influence, and the Rains, it ſhould be left till open'd for receiving the Plants. This is a Practice vaſtly preferable to the opening it juſt at the Time of uſing.

This is the Preparation for thoſe which are to be remov'd; and when this is done, the next Care is demanded for thoſe that are to ſtand longer where they are. Clear away all Weeds from theſe. Where they are too cloſe for the Spade, cut the Surface of the Earth well with a ſtout ſmall Hoe; and where they are ſo far a-part as to give Room for digging, never ſpare it. The Spade the beſt of all Inſtruments of Culture; none divides and breaks the Soil ſo thoroughly.

Every digging of this kind gives the Trees and Plants all the Good of Tranſplantation, without the Diſadvantages. Let us once repreſent this properly to the Gardener.

The Benefit of Tranſplantation is, that the Roots being taken off at the Ends, ſend out innumerable new Fibres; and that there is a freſh-dug Earth, light and open, to give them Paſſage; and full of Nouriſhment to ſupply them. The Diſadvantage is, the Check they receive by the Removal, it being ſome Time before new Fibres ſhoot, or Nouriſhment is received: now, in this Method of Digging, the Ends of all the ſpreading Roots are cut off by the Spade, and there is immediately thrown upon them a Quantity of freſh broken Mould. They have therefore all the Advantage given by tranſplanting; and ſo many of the more perpendicular Roots are left untouch'd, that there is a Supply from them while the other Fibres are preparing, which prevents the Check.

Thus let the practical Gardener underſtand the Reaſon of all his Operations, and he will know how to perform and what to expect from them.

Trim up thoſe Shrubs which require the Knife; and train the reſt by Stakes or Cords to their proper Form.

Pull up by Hand all Weeds from among Seedling Trees and hardy Plants; and having given a good Watering to ſettle the looſe Earth to them, after the Diſturbance from tearing up the larger rooted Weeds; leave for this Week that Part of the Ground.

SECTION III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

Fruits now in Perfection.

THE ſeveral Kinds nam'd in our laſt Number continue good; or where they are not favour'd in Soil and Situation, they are but beginning now to ripen: to theſe we may add, in favourable Grounds, and under the Care of good Gardeners, for the preſent Week,

1. The VIOLET NECTARINE. This is a moderately large Kind: it is whitiſh toward the Wall, and of a deep blueiſh Purple on the ſunny Side. The Skin is tolerably firm, the Pulp is full of Juice, and very rich; and the Stone is Blood-red.

2. The MONTALBAN PEACH. This is a middle-ſiz'd Peach: of a round Shape, without any Point, but with a Cleft on one Side. It is all over of a fine bright Red, except what is juſt next the Wall, and that is of a whitiſh Green. The Fleſh is rich, and parts freely from the Stone.

3. The right ORANGE BERGAMY PEAR: this is now in Perfection. It is yellow, but a little reddiſh on the ſunny Side. Its Taſte is very agreeable, and it is tender and juicy. Its Shape is roundiſh, but hollow'd at the Eye, and a little pointed at the Stalk. The Tree does very well as a Standard in the Dwarf Way, and is a plentiful Bearer.

4. The DRAP D'OR PLUM: this is now ripe on Standards, and is better from theſe than from the Wall. It is a yellow Plum, ſpotted with deep red on the ſunny Side. It is one of the ſmaller Kind, and its Shape is longiſh: it has a remarkable Dimple on each End, and the Stalk is ſhort. The Fleſh is yellow and very rich, but it does not part freely from the Stone.

CHAP. II.

Of the Care and Management of Fruit-Trees.

THE Time for planting, in this Article, approaches as in the others, and our Gardener muſt prepare for it in the ſame Manner. Where-ever he intends to ſet new Trees, let him now dig the Ground. Let him cut it to a good Depth, and break the Clods well, and then lay it even. We have given the Reaſon of this Practice before. The Earth will be improv'd by the Air, Rain and Dews, as much as by Manure.

This Preparation being made in order for new Trees, let him go round his others. With Reſpect of theſe, the Buſineſs turns upon two Points, the gathering ſuch of their Fruits as are ripe, and the preſerving of the reſt; for the Devourers and Deſtroyers of them are at this Time innumerable. The Birds, Commoners of Nature, peck at what they pleaſe; they taſte and leave, and taſte again of others; and what they wound, Myriads of leſſer Creatures follow to deſtroy. The leaſt Fly will attack the largeſt Fruit when theſe have broke the Skin. The firſt Care is therefore to defend from them. They attack the ripe Fruit moſt; and therefore the firſt Way of guarding againſt them, is by gathering what is ready for Uſe and moſt in Danger.

The chief Merit of the Gardener, in this Reſpect, is the ſupplying the Table with them in the utmoſt Perfection, and the Art of Gathering, which is very little underſtood or thought of, is a very eſſential and material Article.

I have ſeen one common Cuſtom among Gardeners, which is to go out for Fruit an Hour before it is to be ſerved at Table; and this they think very meritorious, becauſe it will be freſh.

I have ſeen alſo a contrary Practice, which I ſhall explain, together with its Reaſons; but firſt, in order to ſhew its real Uſe, this Fact muſt be inſerted.

Two Gentlemen, Relations and Neighbours, who had the ſame Soil and the ſame kind of Trees, and thoſe, to all Appearance, manag'd in the very ſame Manner, found a vaſt Difference always in the Fruit: it was ſo great, that their Company never fail'd to perceive it as well as themſelves; and when it came at laſt to be explain'd, the whole Cauſe was, that the Gardener of him whoſe Fruit was worſt, gather'd it juſt before it was wanted, and the other much earlier. This ſeems to contradict Reaſon, Freſhneſs being eſteem'd the great Article in the Nicety of Fruit: but it is only a ſeeming Contradiction.

Let any one examine the State of Plants in general, in Summer, and he will find it this; as the great Heat of the Day comes on, their Leaves begin to flag; and they droop more and more till the Cool of the Evening. The Reaſon is, the great Evaporation of their Juices by the Sun's Heat: they grow flaccid from toward Noon till near Sun-ſet: then the Heat is over, and the Dews refreſh them: they continue recruiting and recovering during the whole Night, and they are firm and lively in the Morning.

The Caſe is the ſame in Fruits, only it is not ſo eaſily perceived. At Noon they are exhauſted and flattened, and they are heated to the Heart: all this renders them dead and unpleaſing. They begin to recruit toward Evening, as the Leaves; and in the ſame Manner are in their full Perfection at early Morning. One Hour after Sun-riſe is the Time for gathering them: this was the Secret of the ſucceſsful Gardener, and this every one ſhould practiſe.

Let him take ſome Fruit-Baſkets of open-work, cover them with large Leaves, and at Seven in the Morning go out to gather his Fruit. When he has carefully choſen what is ripe, and laid it handſomely in the Baſket, let it be plac'd in a cool but not damp Room, till it is wanted.

When the ripeſt are gathered, the reſt are to be preſerved: and with Reſpect of Birds, ſome Lime-twigs and Trap-cages ſhould be placed, and Lines of Feathers hung about the Place.

This, with frequent frightning them away with a Piſtol charg'd with Powder, will be a good general Method of guarding them; but more Care is to be taken of ſome particular fine ones. Grapes and Peaches are now moſt in Danger, and the ſame Method ſhould be us'd for both.

Let the Gardener get ſome fine thin white Crape, and cut it out in Pieces of proper Size: let him obſerve which are the fineſt and moſt perfect Bunches of Grapes, and cover them up with Pieces of the Crape, tying it lightly round the Stalk, juſt over the Top of the Berries: thus there will be ſeveral Bunches of the fineſt Grapes preſerved in ſo many Bags, and they will ripen to Perfection, without being expoſed to Inſects. The Gardener who ſhall follow this Practice, will be able to ſend up ſuch perfect Bunches as can be ſeen at no other Table.

The ſame Care is to be taken with the Peaches; the Places muſt be mark'd where the beſt grow, and Pieces of the Crape nail'd over them; not ſingly, for that would be endleſs; but a large Piece to preſerve ten or a dozen.

The common Practice of hanging Nets over Fruit-Trees, has its Uſe; but in a limited Way. They keep off Birds; and are ſo far ſerviceable; but Flies are not prevented from their Depredations. Among theſe the Waſps are the worſt, and too much Care cannot be taken in guarding againſt them. The Crape will preſerve ſuch particular Parcels as are covered with it; but as a great deal is left open, all Care muſt be taken to deſtroy this Enemy. Bottles of Sugar-water, hung in various Parts of the Trees, are of great Service againſt this Species, and many others; but they give very imperfect Directions who content themſelves with adviſing this.

Wherever a Waſp is ſeen, it ſhould be deſtroy'd with Care; for one Waſp that eſcapes at this Time, and ſurvives the Winter, will lay the Foundation for a Swarm.

The Deſtruction of them ſingly at this Period, and the ſeeking and deſtroying their Neſts in Spring, are the two great Concerns for guarding Fruit from theſe moſt troubleſome of all their Devourers.

SECT. IV.

CHLORIS; or the KITCHEN-GARDEN.

The Products of the Kitchen-Garden, mentioned in our laſt Number, continuing in Seaſon without any particular Addition, we ſhall beſtow the ſucceeding Pages of this, upon its Culture.

THE ſame Directions that are proper for the Nurſery, come into Force here. Weeds will riſe in every Place; they are equally hurtful to all Crops, and they muſt be deſtroy'd every where with the ſame Care. According to the Condition of the Crop various Methods are to be us'd for this: the Spade is the beſt; the Hoe the leaſt effectual: and there are Places here, as in the Nurſery, where neither can be us'd, but all muſt be done by Hand.

Where the Rows ſtand diſtant, nothing can be ſo well as digging up the Ground between; this, to the larger growing Plants, has the ſame Advantage as the digging among the young Trees; but the preſent, is a Seaſon when a younger Growth is more in Danger. There will be, in a well-ordered Garden, a Parcel of Collyflowers riſing to head; and there will be young Spinage; and Turneps of a ſomewhat longer Growth; theſe will be the Crops moſt requiring weeding.

In the common Way of Planting, the Hoe muſt be brought in among the Collyflowers; but when we come to the Seaſon of tranſplanting theſe, according to the Principles on which this Work is founded, we ſhall direct the placing them ſo diſtant, that the Spade may be brought in between, and this will give them Heads in the ſucceeding Month, finer than thoſe of the beſt Seaſon.

When they are hoe'd, let a ſmall ſtrong Hoe be us'd to break the Surface to ſome Depth; and when the Weeds, cut up by this, are drawn off the Ground, let there come a good Watering.

The Turneps muſt be hoe'd in the ſame Manner; but the weeding of the Spinage will be beſt done by Hand, ſtriking the Mould off from the Roots as they are pull'd up, and leaving all level about the young Plants.

This is a Seaſon for ſowing ſome *Dutch* Lettuce. Care muſt be taken of the Plants when they are up; and if a Frame be allow'd for a Parcel of the beſt of them, they will be ſure to come in a good Seaſon.

Celery planted out at its proper Seaſon, will now be well rooted, and the Advantage of the Rains will ſend it up largely. Let it be earthed as it riſes, and let this be done carefully. The Mould drawn up about it muſt be fine, and the earthing of it ſhould be perform'd in a dry Day. Care muſt be taken to earth it high enough, elſe the Work will ſoon need to be repeated; but let the Gardener ſee the Heart of the Plants is not choak'd or cover'd, for this will rot them.

Much of the Kitchen-Garden Ground will now be clear'd of its Crops; and this the Gardener is to conſider as of two Kinds; ſome Parts of it muſt ſerve for receiving the tranſplanted Growths for Winter, and ſome muſt be reſerv'd for the Spring ſowing.

The compleat Gardener ſhould have all this in his Eye at once; and making the proper Separation and Diſpoſition now, he will find all his Work proceed with Regularity.

When he has mark'd out his clear Ground for theſe Purpoſes, let him ſet on his Men to digging. Moſt content themſelves in the clearing off the Weeds, by Hoeing, from the whole Ground; and there are printed Authorities (ſuch have the Writers on Gardening been) for this Conduct. Let our Pupil learn what is Tillage better.

How does Earth become exhauſted, but by the nouriſhing of Plants? And how is it refreſh'd and reſtor'd to its former Strength and Vigour, but by Manure and Tillage? Either will do; and, in ſome Caſes, Tillage is beſt us'd ſingly: in others, both together.

As to the exhauſting of the Earth, all Growth of Vegetables does that; Weeds as well as profitable Herbage; and with Regard to the reſtoring it to Vigour, where Manures are not employ'd, the Effect of Tillage in diſpoſing it properly to receive the Rains and Dews, is the great Thing. Theſe are the Principles of Garden Culture: let us apply them to Practice in this Inſtance.

Here are large Spaces of Ground exhauſted by Summer Crops, and they are to be refreſh'd for the ſucceeding Plantation. Weeds muſt not be permitted to grow upon them, for that would exhauſt them farther. Theſe the common Writers direct to be clear'd off; but here their Directions ſtop. Certainly this prevents the farther exhauſting of the Ground, but more may be done. Even where no Manure is added, Tillage will come in very ſerviceably; therefore let all his Ground be dug, but in a different Manner.

Let the firſt Diviſion, comprehending all that is to be us'd for the Autumnal Tranſplantation, be dug deep and well: let it be laid in Borders, or Beds, of proper Form; and thus broke by the Spade, let it lie expos'd to Dew and Rain to enrich it, till the Time of planting it. The Ground will be much fitter for that Service, and much improv'd by this Preparation.

With Reſpect to the other Part, which is to lie vacant till Spring, let it enjoy all the Advantages of Fallow. The Farmer may inſtruct the Gardener here in his own Profeſſion. When he lays his Land fallow, he does not leave it in the Stubble: he knows Reſt from Produce is but a Part of what is requir'd for its recruiting its

Strength; he plows it deep and well, and after ſome Months he repeats that Labour: thus the Mould is broken, the Air, Sun, Rains and Dews, Nature's own Manure, are admitted freely; the Clods are calcin'd by the Sun and Wind, mellow'd by the Dews, and diſſolved by Rains. Thus the Land becomes improv'd not by meer Reſt or Reſpite. The Spade is the Gardener's Plow, and it is a better Inſtrument: his Land needs Fallowing, and let him give it all the due Advantage.

Something like this is done in the Beds for Tranſplanting, according to our Directions here given, and there is not Time for more. The Soil is once expoſed and broke in digging up the Border, and once again in the particular Spots that are uſed, in the Act of Planting. In that Part ſet aſide for Spring, there is Opportunity for much more Advantage. Let it be dug deep, well broke with the Spade, and thrown up in high Ridges, Eaſt and Weſt, that it may be open to the Riſing and the Setting-Sun. Twice in the Winter let it be dug again, broke well a-freſh, and thrown up in the ſame Form and Manner. This will give it all the Advantage of a well-manag'd Fallow, and in the Spring it will be found very fruitful.

Much of the Dung uſed in Kitchen-Gardens may be ſav'd this Way; and 'tis always to the Advantage of the Products to be ſparing of it. The ſame Effect that takes by Fermentation, the Tillage we have directed ſupply by Calcination, and by the Impregnation of the Dews; and all the Products rais'd upon Ground, thus enrich'd by Tillage, will be finer flavour'd than thoſe ſupply'd with Nouriſhment from Dung.

We direct this to be a Week of Preparation more than actual Service; and it will be found moſt adviſeable to make this Uſe of it. We propoſe, in the next Number, to direct the principal Tranſplantations of the Kitchen-Garden, and this is needful as a Preparation for them.

The Time of making Muſhroom-Beds is now approaching, and this ſhould be prepar'd for in the ſame timely Manner. Let mellow Dung be ready for making the Beds, and the proper Matter got for planting of them. This is to be ſought for in the Fields.

The Muſhroom, long ſuppos'd to be produc'd from Dung of Animals, by an equivocal Generation, is now known to riſe like all other Vegetables, from Seeds. It is one of the CRYPTOGAMIA of LINNÆUS: theſe compoſe his Twenty-fourth Claſs, the laſt of his Work; and the Term form'd, like all his others, of two *Greek* Words, ſignifies Plants, the Impregnation of whoſe Seeds is from the Smallneſs or Obſcurity of the Parts, perform'd in a Manner not viſible to our Eyes.

The Gardener ſhould underſtand thus much of Botany; for otherwiſe he cannot underſtand what this Matter, to be ſought for the enriching of Muſhroom-Beds, is; or how it ſhould be moſt properly manag'd.

The Seeds of Muſhrooms are impregnated by a fine Duſt from certain Buttons, like the Antheræ of larger Flowers; and theſe, together with thoſe Antheræ, are lodg'd within the Gills.

When a Muſhroom ſtands to ripen fully, they drop out on the Ground: the Flap falls upon them, and preſerves them from being ſcattered by the Winds: it alſo enriches the Soil, and promotes their ſhooting. This happens in Autumn in our rich Paſtures; and, at other Seaſons, on Muſhroom-Beds already made, and fruitful.

The firſt Shoot from the Muſhroom-Seed, is a ſlender Fibre, not to be perceiv'd but by powerful Microſcopes; and this ſerves only to fix it in the Ground. Thus the Seeds lie till the ſame Period of the ſucceeding Year; they then ſhoot downwards; and getting about an Inch or an Inch and half under the Surface, form Cluſters of little roundiſh Knobs. From theſe occaſionally riſe Muſhrooms; and from the Bottoms of their Stalks again, there are produced more of theſe little Knobs.

Theſe are what Gardeners call the *Spawn* of Muſhrooms: they are the proper Matter for propagating of them on the Muſhroom-Beds; and this is the right Time for ſeeking them.

The Muſhrooms which grow wild in Fields, are vaſtly preferable to ſuch as we have from Art: therefore let this *Spawn*, as it is call'd, be ſought in the richeſt Paſtures, where Muſhrooms naturally grow; and not taken from the Beds of other Gardeners. It will be found, by opening the Ground, where Muſhrooms riſe plentifully; and it muſt be manag'd carefully.

The Gardener, when he goes out for it, ſhould take his Spade for opening the Ground, and a broad Baſket, covered at the Bottom with dry Moſs.

He muſt take up the Lumps of Spawn as entire as poſſible, with their own Earth about them, and lay them carefully in the Baſket: when he has as much as covers the Bottom, he muſt ſpread over them another Layer of Graſs, or Moſs, pretty thick, and then lay in more: thus let him proceed till he has enough for ſuch a Bed as he intends to make.

When he has brought this home, let him take it out of the Baſket as carefully as he put it in; and lay it Piece by Piece, with the Moſs under it, upon a Table in an airy Room, where the Sun does not come.

This is the Preparation he is to make for the Muſhroom Spawn; and we ſhall, next Week, tell him what to do with it: for it muſt be ſo long expoſed to the Air before it can be planted.

E D E N:

A
COMPLEAT BODY of GARDENING.

* * *

NUMBER III.
For the Second Week in *SEPTEMBER.*

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SECTION I.
FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.
Curious Plants and Flowers now in their Perfection.

1. CANARY DRACOCEPHALUM, *called* CEDRONELLA.

Sept.

Pl. III. Fig. 1.

THIS is a Plant of leſs Beauty than many others; but diſtinguiſhed by its Fragrance; which is of a peculiar Kind, reſembling the more delicate of the reſinous Drugs.

The Vulgar have, for this Reaſon, called it the *Balm of Gilead* Plant; and ſome have thence been led to ſuppoſe the liquid Reſin of that Name its Produce; but that is a great Error. The common Writers call it *Moldavica Meliſſa Canarina*, and by two peculiar Names, *Camphoroſma* and *Cedronella:* its proper Name is *Dracocephalum floribus ſpicatis foliis compoſitis*; Dragon's Head with ſpiked Flowers and compoſite Leaves.

It is an herbaceous Plant of two or three Feet high: the Stalk is ſquare, tolerably firm, upright and branched. The Leaves are numerous, and grow with Regularity, three on each Footſtalk toward the Top of the Plant; and ſometimes five on thoſe nearer the Bottom. They are oblong, ſerrated, ſharp pointed, and of a pleaſant green.

The Flowers ſtand in thick Tufts or ſhort Spikes, terminating the main Stalk and all its Branches: they are ſmall, and of a pale red, deeper above, and often whitiſh below. When theſe are fallen, four Seeds ſtand naked in the Bottom of each Cup; and from theſe the Plant is to be raiſed again.

Sept.

The Flower examined cloſely is found to be formed of a ſingle Leaf, tubular at the Bottom, and gaping with a Kind of Mouth. The upper Lip is arched and ſimple; the lower is divided into three Segments; and under the Covert of the upper Lip ſtand four Filaments.

Our Student has not yet met with any Plant with this Number; but he muſt not be haſty thence to refer it to the fourth Claſs.

The Number of theſe Filaments never diſtinguiſhes the Place of the Plant, but when they are ſimply diſpoſed.

He will hereafter meet with Flowers in which there are four equal Threads; but in this it is otherwiſe: two he will ſee are longer than the others. The Difference is not much; but it is abſolute and invariable. On this depends the finding to what Claſs the Plant belongs; for there is a peculiar one for all thoſe, two of whoſe Filaments are longer than the others.

It is the fourteenth in the LINNÆAN Syſtem. The Name is *Didynamia*, a Term formed like the reſt, of two *Greek* Words, and expreſſing Plants in whoſe Flower two Filaments have more Efficacy than the others.

This is a Native of the *Canaries*; but it is eaſily raiſed with us, and thrives as well as in its natural Climate.

It ſtands our Summer Nights, but muſt be defended by the Cover of a Greenhouſe, when the Air is chiller.

The Culture of the CEDRONELLA.

The Seeds are to be ſown early in Spring; or the Cuttings are to be planted in the Summer Months. This latter is the Method generally practiſed, and is directed by thoſe who have written on theſe Subjects; but we write not from the vulgar Practice, or according to the vulgar Inſtructors, but from what we have ſeen.

Strong Plants may be raiſed from Cuttings; much handſomer from Seeds ripen'd here; and the fineſt of all from freſh Seed brought from the *Canaries*.

Its wild Growth there is by the Sides of Woods in light looſe Earth; and this is what we ſhould copy; therefore let the Gardener who would do himſelf Credit from the Superiority of his Plants to thoſe of others, proceed thus.

In the ſecond Week of *April* let him ſelect his Spot, and prepare his artificial Soil. Let him chuſe a Place under a ſouth-weſt Wall, and not wholly without the Shade of Trees. Let it be defended againſt the cold Quarters; and upon this ſmall Spot let him thus raiſe his Plants. To one Part of the common Mould, let him add two Parts of old rotted Wood from the Earth of a Stack Bottom.

When this is worked together, let him draw his little Drills, and ſow the Seed in two or three Rows, covering it but Half an Inch: let him then ſcatter lightly a little Peaſe Haulm over the Place, and leave the Reſt to Nature.

When the Plants begin to ſhoot, let the Haulm be taken off; and at Evening give carefully a very gentle Watering. Repeat this if Showers fail, and let the Plants gain ſome Strength; then mark the ſtrongeſt, and leave them at a Foot diſtance every Way, pulling up all between them.

From this Time keep the Border clear of Weeds, and now-and-then ſtir up the Surface with a Trowel: water the Plants in dry Weather, and they will grow faſt.

In the laſt Week of *July* take up one Half of them. Prepare large Pots; fill them half up with the Earth of the Border: take up theſe Plants with as much Mould as can be made to hang about them, and place one in each Pot: fill up with Earth, and keep the Plants upright and ſteady.

Set theſe in a ſhady Place, and give them a little Water. Repeat this, and keep them in the ſame Place till they have taken Root; and after that ſet them where they may have good Sun.

Theſe being taken care of, thoſe left in their natural Bed are to have equal Regard. The Earth is to be levelled, and they are to be watered, after the taking up of the others; and this is to be repeated occaſionally afterwards.

We have obſerved, that breaking the Earth while a Plant is growing, ſerves as Manure to it: this will be ſeen in the preſent Inſtance; for when Half the Plants are taken away, the reſt having double Space and a freſh broken Earth, will ſhoot up ſurpriſingly. They will have the Superiority over thoſe in the Pots greatly, from their not having been removed; and many of them will flower that Year, about the Middle of *September*.

Theſe Plants are to be left all Winter; and thoſe in Pots are to be removed into the Greenhouſe. This uſed to be the Cuſtom with all, but we write from Trial: the Plants in the open Garden will live thro' a common Winter, and exceed vaſtly thoſe in the Pots.

I have thus raiſed the *Cedronella* to five Foot Height, with perfect Strength and Vigour in every Part: its Leaves, when bruiſed, have perfumed a Room; and its Flowers have been finer by much than thoſe raiſed in the common Method from Cuttings, and ſheltered in the Houſe.

2. *The* COTTON TREE.

Pl. III. Fig. 2. This is a Shrub diſtinguiſhed by its Beauty, and worth the Regard of all who cultivate Exoticks. The common Writers call it *Xylon Goſſypium*, and *Ceiba*: its proper Name is *Bombax foliis digitatis caule arboreo*: Shrubby Bombax with finger'd Leaves.

Its Height is five or ſix Feet, and it ſpreads naturally into many Branches, wildly but not unhandſomely. The Trunk is of a pale brown. The young Shoots glow with a Tinge of yellowiſh; and the Foot-ſtalks of the Leaves are not unfrequently reddiſh.

The Leaves are large and beautifully formed; each is divided to the Stalk, or nearly, into five Parts, which ſpread as the fingers of a Hand: their Colour is a very deep green on the upper Side, and paler underneath; and on the Stalk there are Prickles. The Flowers are very large and very beautiful; their Colour is a pale yellow, often tinged with Purple; and their Cups are a ſingular Beauty in the Plant; they are vaſt, rounded, ribbed and jagged. The Flowers do not terminate the Branches; but grow in great Number from the Sides of the Shoots. After theſe

come

Sept. come the Seed Veſſels, which are roundiſh but pointed, and contain each, in four Cells, many large Seeds, wrapped round in a ſnowy and ſoft Down, which is Cotton.

To know the Claſs to which this Plant belongs, the Student muſt inſpect the Flower. He finds it placed in a double Cup, and formed of five large Petals, whoſe Baſes are united. Opening theſe he ſees numerous Filaments crowned with their Antheræ; and following their Courſe down with an obſerving Eye, he perceives they all unite and form a Kind of Tube.

We need not tell him to what Claſs the Plant belongs, for he has made himſelf acquainted already with the *Monadelphia* under two preceding Articles, the *Fig Hibiſcus* and the *China Roſe*; and we have told him all Plants whoſe Flowers have Threads ſo united into one Body, belong to the ſixteenth, the Monadelphous Claſs: the Filaments being numerous, refer it alſo to the ſame Section with thoſe; the third containing the *Polyandria.*

The Shrub is a Native of the *Eaſt* and *Weſt-Indies*, and with us requires the Warmth of a Stove.

The Culture of the COTTON-TREE.

Procure Seeds from the Places where it is native, and give Inſtructions that they be gathered when fully ripe; and ſent over the ſame Year.

Sow theſe early in Spring upon a common hot Bed, and they will ſhoot freely. When they have riſen to a little Height, they muſt be potted, and afterwards removed into the Stove. The Method is this.

Let a Quantity of good Garden Mould be made very fine; and as many Pots ſet ready, as it is intended to raiſe Plants. Let each Pot be filled half Way with the Mould, and then let the beſt and moſt promiſing of them be carefully taken up, and ſet in the Pots, one in each. Let more of the fine Mould be put in, and the young Plant ſecured upright, and well fixed. Then let them have a very gentle watering from a Pot with ſmall Holes; and let them be ſet in a hot Bed with Tanners Bark. Sept.

Let them be kept here with Care, watering them at times, and giving them as much Air as they can bear; for the more Air they have, provided they are not checked by it; the ſtronger they will grow.

When they have got to ſome Height they muſt be removed into larger Pots; for in the ſmall ones there will not be then Room for their Roots, nor Earth enough for their Nouriſhment. Still nothing is to be uſed for them but Garden Mould. Theſe larger Pots muſt be half filled with this; and the Plants are to be removed into theſe, keeping a good deal of the Earth about them; and the Pots are then to be filled with more: they muſt thus be put into the Bark Bed again, and watered as Occaſion requires.

As the Summer is by this Time advanced, the Air is fitter for the Plants; and they may be allowed a great deal of it, by often raiſing the Glaſſes.

Thus they are to be kept, till they are ſo tall as to reach the Glaſs of the hot Bed Frame. If they were kept there longer it would ſpoil their Form, but that is not needful; for they may now be taken to the Stove. They are there to be ſet in their Pots in the Bark Bed, and they will flower the ſucceeding Seaſon, and continue ſeveral Years.

There muſt be Care to pick off the dead Leaves as any are ſeen; and in all other Reſpects they are to be treated in the ſame Manner as other Stove Plants.

3. EGG NIGHTSHADE, *called the* MAD-APPLE.

Pl. III. Fig. 3. This Plant demands a Place among thoſe of Curioſity, from the great Singularity of its Fruit, which is of the Bigneſs and Colour of an Egg. The common Writers call it *Melongena* and *Mala inſana*, in *Engliſh*, MAD-APPLES; and it has been ſuppoſed, that being of the Nightſhade Kind, thought in general poiſonous, and characteriſed by ſo ſingular a Name, it had the Effect of cauſing Madneſs; but this is an Error; for the Fruit is perfectly innocent. It is eaten in many Parts of *Europe*, and the *Eaſt*; tho' we raiſe it only for Curioſity.

It is truly and properly of the Nightſhade Kind, and its Name, according to LINNÆUS, is *Solanum caule inermi herbaceo foliis ovatis tomentoſis integris, calycibus ſpinoſis:* Weak herbaceous Nightſhade, with oval, undivided, downy Leaves, and prickly Cups.

The Plant is two Foot and a half high, of an irregular Growth, and ſpreading: the Stem is round, thick and hairy; the Leaves are large, and they ſtand upon long Foot-ſtalks; they are broad at the Baſe, ſmaller to the Point, and irregularly wav'd at their Edges: their Colour is a pale green, and they are hairy.

The Flowers are not of any great Beauty: they are moderately large, and of a duſky white, with more or leſs of Purple. The Fruit which follows theſe is of the Bigneſs of a Hen's Egg, white, ſoft and juicy.

To know to what Claſs this Plant is to be referred, the Student muſt examine the Flower more nearly. He will find it is placed in a Cup formed of a ſingle Piece, divided into five Segments; which remains when it is fallen, and encloſes the Baſe of the Fruit. The Body of the Flower is compoſed of a ſingle Petal, divided deeply into five Segments, and tubular at the Bottom. In its Centre ſtand five Filaments of equal Length, and regularly diſpoſed: they are ſhort, but they have conſpicuous oblong Antheræ or Buttons, which converge at the Points.

The

Sept. The Number and Diſpoſition of theſe Filaments, ſhews the Claſs of the Plant to be the fifth of LINNÆUS, the *Pentandria*: and as the Style riſes ſingle among theſe Filaments, that ſhews it belongs to the firſt Section. The *Melongena*, or *Egg Nightſhade*, is therefore one of the *Pentandria Monogynia* of LINNÆUS.

It is an Annual, and is to be raiſed from Seeds by the Aſſiſtance of hot Beds, in the Manner of other Plants of that Kind. It will require two hot Beds, and may, after that, be left to its Fortune in the natural Earth.

Let Seeds be ſaved from ſome large Fruit growing on a ſtrong and vigorous Plant. Let theſe be carefully dried and preſerved thro' Winter: and in the Middle of *March* let them be ſown on a Hot Bed of a moderate Degree of Heat, covered with very rich common Mould.

When the Plants are up, the Gardener muſt prepare a ſecond Hot Bed; which ſhould have a Covering of Mould alſo five Inches deep.

As ſoon as they have three or four Leaves apiece, let him tranſplant them into this ſecond Hot Bed, making ſmall Openings for them at five Inches Diſtance every Way, and ſetting them with the utmoſt Care.

Let them have a gentle watering as ſoon as they are planted, and keep them well ſhaded, till they have recovered the Check from removing, and look freſh again and lively: then his Care muſt be to give them as much Air as they can endure. He muſt not throw off the Cover of the Frames, nor raiſe them very high at improper Times; but in the Middle of the Day, and when the Air is warmeſt, he muſt raiſe up the Cover a little at a time, and thus prepare them as they gather Strength, and the Seaſon grows warmer, to be fully expoſed.

All this Time they muſt be watered occaſionally; not largely, but frequently; and they will thus, by the latter End of *May*, grow too big to be longer confined in the Frame.

Then is the Time of planting them out; and here the Gardener has his Choice, to put them into Pots or open Borders. The moſt uſual Method is to pot them, becauſe they can ſo be removed when the Fruit is ripe, and ſet in conſpicuous Places; but the beſt Method is to plant them in the natural Ground.

In Pots they have not Room to ſpread; and few know how far the Roots of Plants extend for Nouriſhment: neither have they in that Caſe the Benefit of Steams from the Earth, or other common Advantages of Nature. Sept.

From what we have ſeen from Experience, we adviſe the Gardener always to place ſome Plants in the natural Ground. If the Pleaſure of the Proprietor requires that others be in Pots; it will be ſeen that there is a vaſt Difference in Favour of thoſe raiſed Abroad. The Method muſt be this.

Let him chuſe a warm and well expoſed Spot of the Garden, ſheltered from the cold Winds, while it is open to ſome Air and Dews; here let him dig the Earth a Spade and half deep, and work in a little very rotten Dung.

Let his Bed be prepared a Fortnight before it is wanted; and about the laſt Week in *May* let the Plants be removed into it. They muſt be carefully taken up from the hot Bed with as much Earth as will hang to their Roots, and placed at two Foot Diſtance every Way in the new Border, in Holes opened deep enough and large enough to receive them with their Roots and Earth.

Here they muſt be watered and ſhaded, till they have recovered the Check of their moving; and after that kept free from Weeds, and at times alſo watered.

When the Fruit appears they muſt be watered more plentifully; not with a Deluge at once, but by a moderate Quantity often repeated.

The Bigneſs of the Fruit is the Pride of the Gardener; and this depends greatly upon the due Degree and equal Quantity of Moiſture.

I have brought the Fruit of this Plant to the Size of a Gooſe-Egg, only by a good Soil, proper Diſtance, and gentle watering three Times a Day, as it was growing to its Bigneſs.

It is not peculiar to this Species of *Nightſhade* to have ſo large Fruit. The *Barbadoes* Batchelor's Pear is another Inſtance which we ſhall give in our next Number; and there are of this Kind, called *Melongena*, ſome Varieties: one with the Fruit of a fine Violet Colour. But the Beauty of this does not come up to the Singularity of the other, whoſe Reſemblance of an Egg, from its white Hue, is very pleaſing.

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4. *The* GLORIOSA, *called the* SUPERB LILLY.

Pl. III. Fig. 4. This is a Plant not only of extream Beauty, but of a Singularity, which, had it leſs Elegance, could not fail to recommend it to the Notice of the Curious. It is an Unick among Vegetables, a Plant *ſui generis*, and not to be referred to any other Kind.

Its moſt uſual Name is the *Superb Lilly*: its *Indian* Name, *Mendoni*. COMMELIN gave it the Name, *Lilium Zeylanicum Superbum*, the Superb Ceylon Lilly. HERMAN calls it *Methonica*; and LINNÆUS, by a very proper and expreſſive Name, *Glorioſa*. No Terms of Diſtinction are added, becauſe it ſtands ſingle, and has no like Species from which to be diſtinguiſhed.

It is a perennial rooted Plant, and where ſupported riſes to eight Foot high, if Culture favour it. The Root is oblong, thick, flatted, and covered with a brown Bark, but white within. The Stalk is round, green, weak and branched.

The Leaves are long, and of a moderate Breadth. They ſtand at Diſtances upon the Stalk; and from a broad Baſe grow ſmaller to the Point, where they become extreamly ſlender, and curl in the Manner of Tendrils. They ſerve that Purpoſe alſo, laying hold of any Thing by which they can ſupport the Stalks.

The Flowers are ſcattered over the whole Plant: ſome terminate the Branches, and others riſe from the Boſoms of the Leaves on long ſlender Foot-ſtalks.

While in the Bud they droop, and have a ſingular and very beautiful Figure. They are of the Bigneſs of a ſmall Pullet's Egg, and of its Shape; the large End growing to the Stalk. In this State their Colour is an elegant whitiſh; green tip'd at the Point with a moſt glowing Purple.

As they burſt open they grow more erect, the Stalk is firmer, and not the Body of the Flower only, but its Filaments alſo turn upwards. When fully open it is of a vaſt Size, and the green of the Petals grows firſt gradually yellow to the moſt perfect gold Colour; and thence to a moſt elegant purple. Thus the ſeveral Flowers in their various States appear diſtinct, and diverſify the Object in an extreamly pleaſing Manner.

The ſeveral Petals are of a ſingular Figure, long, narrow, and undulated at the Edges. The whole Flower, when the Plant is well managed, is often three Inches and a half in Length, and is ſecond to none in Elegance or Singularity.

To know to what Claſs in the LINNÆAN Syſtem this ſtrange Plant belongs, the Flower is to be examined in its internal Parts.

It grows to the Stalk without a Cup, and it is compoſed of ſix of theſe long, narrow, undulated and pointed Petals. Theſe are turned up from the Baſe; and in their Centre riſe ſix conſpicuous Filaments, terminated by their Buttons, and ſurrounding a ſingle Style.

The Student will not be at a Loſs whither to refer this Plant: its Parts are ſo conſpicuous, that none can ſerve better for explaining the Characters of the Claſs to which it belongs. This is the ſixth of the LINNÆAN Syſtem: it is called *Hexandria*, a Term expreſſing Plants in whoſe Flower there are ſix male Parts. Theſe are the ſix Threads; and as the Style is ſingle, it naturally falls into the firſt Section of that Claſs.

Let the young Botaniſt impreſs this in his Memory: whenever he ſees a Flower with ſix equal, ſeparate Filaments, and a ſingle Style, let him remember it belongs to the *Hexandria Monogynia*.

The Tulip is ſuch another, and moſt of the Plants with bulbous Roots.

It is one of the Singularities of this noble Plant, that with theſe plain Characters of the bulbous Tribe, its Root is not of that Form.

This ſhews the Preference of the LINNÆAN to the common Syſtems in this Article. They arrange theſe Plants according to the round Form of their Roots; and they muſt therefore ſeparate this Plant from them.

The new Method diſpoſes them according to their Filaments, and joins this with them.

Nature wantons here in her Characters; and LINNÆUS is happy, that her Irregularities are in his Favour. Sometimes they perplex his Method; and too often give this Praiſe to others.

The Culture of the GLORIOSA.

The *Glorioſa* is a Native of *Ceylon* and *Malabar*, and therefore needs good Care to bring it with us to due Perfection.

Its Propagation muſt be by parting the Roots: and Time muſt be allowed them; for they muſt by Degrees be brought to Strength for flowering.

To know the proper Soil, the Gardener ſhould be informed in what Kind it naturally grows: 'tis found in barren Deſarts upon Sand; but it thrives beſt where there is ſome Richneſs alſo in the Ground, and where it has Support and Shelter. In Autumn after it has flowered, the Leaves grow yellow, and the Stalks decay: this is the Time for getting off the Sets.

Let the Mould be carefully opened about the Plant, and let them be taken off carefully without damaging the main Root. Let this be covered carefully up, and left to Nature; and let theſe Off-ſets be planted thus: mix together equal Parts of light, rich Garden-Mould and Sand; prepare as many Pots as there are Off-ſets, and let them be large ones; for the Plants are never to be removed out of them.

Let the Pots be filled two thirds with this artificial Soil, ſhaking it down, that it may gradually ſettle. Then place carefully in each one of the Off-ſets, and cover it regularly two Inches deep.

Shake the Pots gently again, and ſet them, not in the Greenhouſe, but under an eaſt Wall. Here the Soil will be impregnated with the Rains, Dews and Sun; and if there ſhould be a Defect of Showers, a little Water muſt be given them once in four or five Days.

When they have ſtood thus a Fortnight, remove them into the Stove, placing them where they may have as much Air as can be had in that Situation.

Here they muſt be watered now and then, and the Top of the Ground muſt be watched for their ſhooting.

About the Beginning of *December* the firſt Shoots will be ſeen above the Surface; and from this Time they may be watered ſomewhat more largely.

The Ground ſhould be ſtirred at the Surface from time to time; and when they are grown to ſome Height, a Stick muſt be carefully thruſt into the Mould, and they muſt be tied up to it.

After this let them have Warmth to promote their Growth, and Air, as it can be conveniently admitted, to give them Firmneſs and Strength.

The Spring after the planting of theſe Off-ſets, Sept. ſets, let the Ground be carefully looſened all over the Surface, and remov'd almoſt down to where the Root lies; and when the Pot is thus far emptied, let the Earth near the Sides be cut and broken by Means of a long blunt Knife.

This done, ſprinkle over it a little Water; then fill up the Pot ſomewhat higher than it was before, with the ſame Kind of Soil, and give another gentle watering.

Let this be repeated the following Autumn, and ſome of the ſtrongeſt Plants will flower the next Year. With the ſame Care they will moſt of them flower afterwards; but commonly there are ſome that do not till the third Seaſon. Theſe are the weakeſt of the Off-ſets, or ſome that have been ill-managed. In general, under the Hand of a ſkilful and careful Gardener, they will flower two Years after planting. Sept.

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5. TUBEROUS BINDWEED, *called the* RED BATTATA.

Pl. III. Fig. 5. This is a Plant cultivated with us only for Curioſity, but in many other Places for Uſe; the Root being eſculent. 'Tis from the Colour of the Outſide of this the Plant is called red, for the Flowers are uſually blue: in this Reſpect of Colour, however, neither Root nor Flower are conſtant; the Plant varying according to the Soil and Situation, when wild, in both.

Its moſt common Name is the BATTATA. Some, after the *Spaniſh*, call it CAMOTES; and ſome, by its *Indian* Name, INHAME. It is properly of the Bind-weed Kind; and its diſtinct Name is, *Convolvulus foliis cordatis angulato nervoſis caule repente tuberifero.* Bind-weed, with heart-faſhion'd angulated Leaves, and creeping tuberiferous Stalks.

It is one of the moſt elegant of the Bind-weed Kind.

The Root is tuberous, thick, and red on the Outſide, but white within. The Stalks are weak; and when they trail upon the Ground, there grow other ſuch tuberous Lumps from them: but it is better they ſhould be ſupported, otherwiſe the Plant grows dirty, and ſhews little of its Elegance. The Colour of the Stalk is purple: it is round, thick, and tough, and will climb to a vaſt Height, winding, like our Bind-weeds, upon any thing near it.

The Leaves ſtand ſingly on long Foot-ſtalks, and they are of a very elegant Form and Colour. They are broad at the Baſe; and are there heart-ſhap'd and angulated, or ſpread out into four or more ſharp-pointed Segments; from thence the Body of the Leaf is continued ſmaller to a Point, and this Part is uſually wav'd upon the Edges. The Colour is a very fine deep green, and the Veins are purpliſh.

The Flowers grow in a ſcattered Manner all over the Plant; they are plac'd ſingly on long purple Foot-ſtalks, riſing from the Boſoms of the Leaves; and they are large, and of a Bell-like Shape. Each is compos'd of a ſingle Petal, and plac'd in a ſmall Cup, divided into five Parts at the Edge. The Body of the Flower is form'd of a ſingle Petal, which is narrow at the Bottom, and ſpreads to a great Breadth at the Top, where it is folded, and, as it were, wav'd at the Edge. Its Colour, when moſt perfect, is a celeſtial blue, with an Eye of yellow: this Colour goes thro' the Petal in its lower or tubular Part, where it is throughout yellow. Sometimes 'tis altogether white, and ſometimes reddiſh.

This is the general Structure of the Flower, which is followed by a large ſhelly Seed-veſſel, defended by the remaining Cup. To know the Claſs to which the Plant belongs, its inner Parts muſt be examined. Tearing a Flower in two, down to the Baſe, the Student will perceive there ſtand in the tubular Part five ſhort, ſeparate, and regular Filaments; theſe ſhew him that the Plant is of the Fifth Claſs of LINNÆUS, nam'd from the five Male Parts PENTANDRIA. He will next ſee a ſingle Style riſe among theſe Threads; and this ſhews that the Section, to which it belongs, is the firſt, the MONOGYNIA.

All the Bind-weeds, and many other Plants, have the Male and Female Parts of the Flower thus diſpoſed, and are of the ſame Claſs.

This is a Native of the *Eaſt* and *Weſt-Indies*, and with us will require Heat and Shelter; but there is no Difficulty in raiſing it.

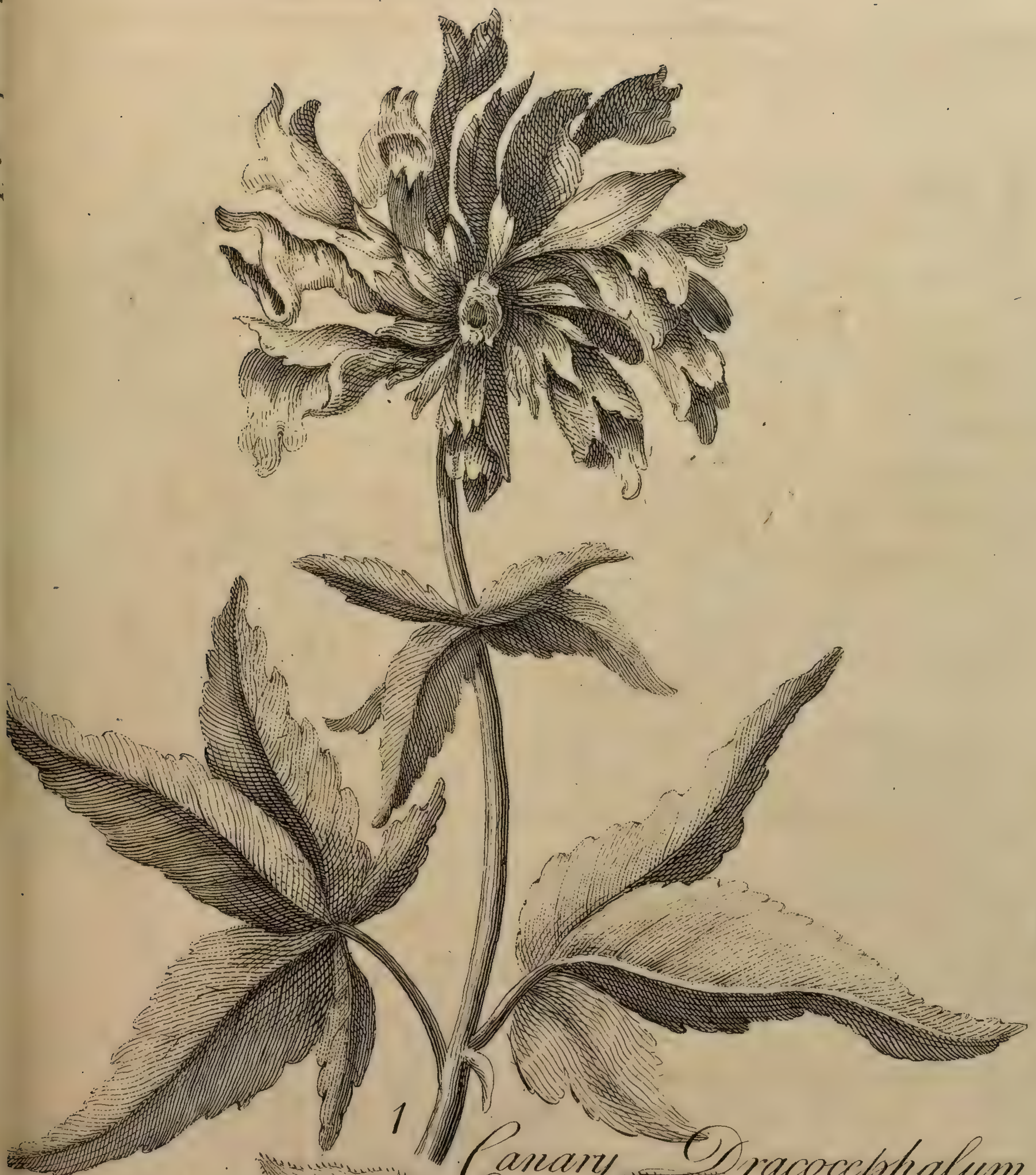
The firſt Care muſt be to get good and freſh Seeds.

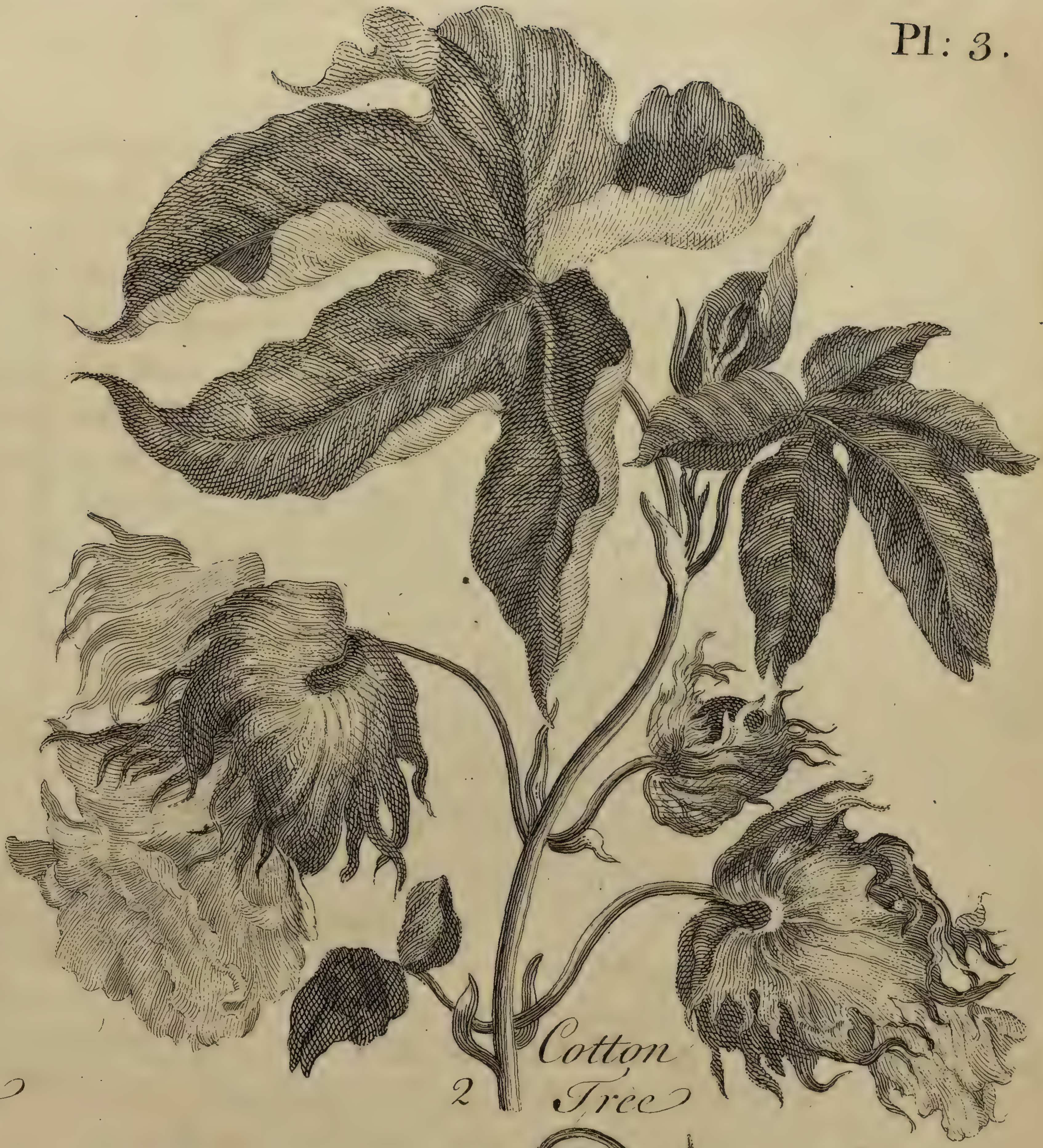
The Culture of the TUBEROUS BINDWEED.

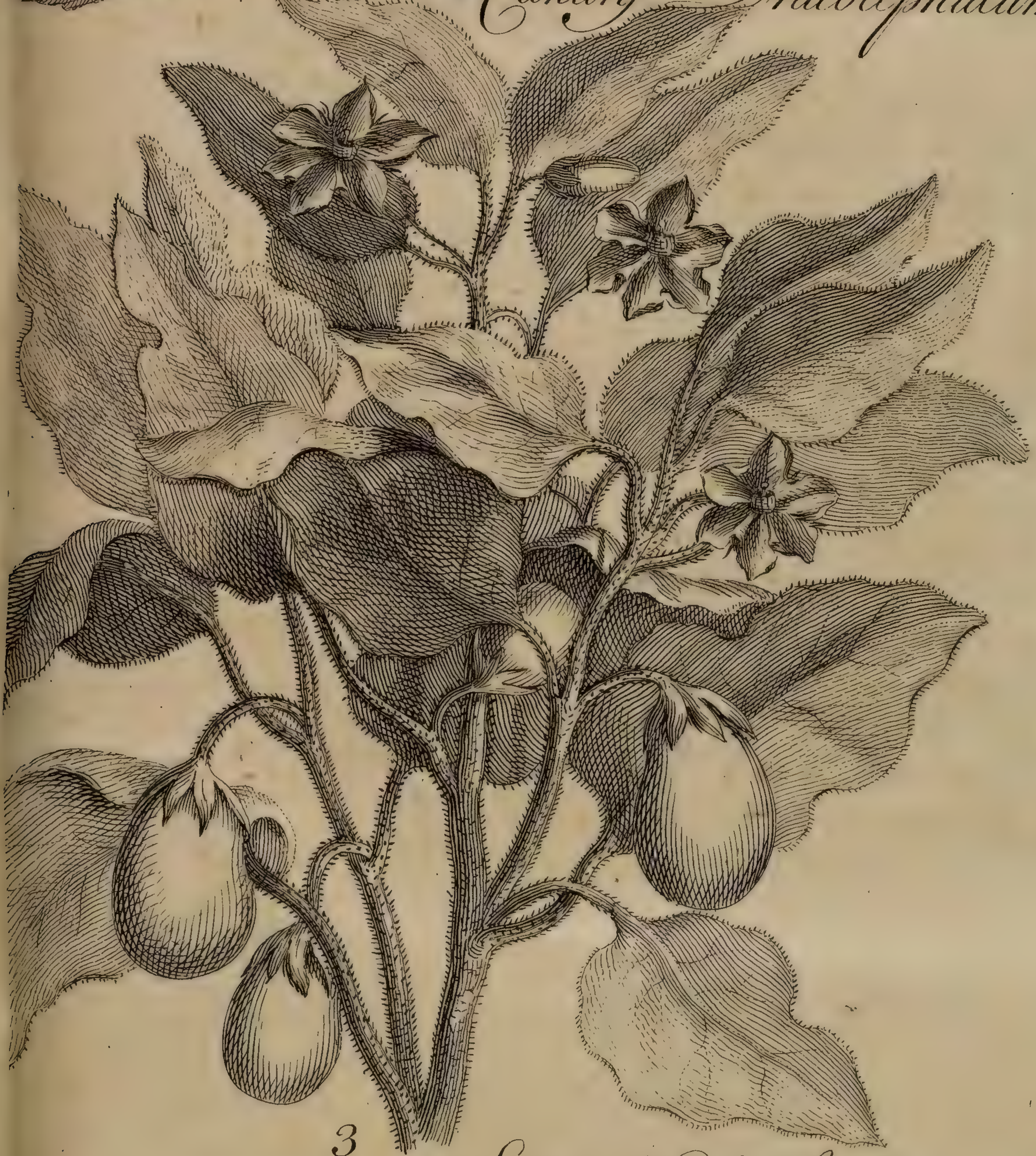
In *March* prepare a common Hot-Bed, and ſow theſe; covering them an Inch deep with the Mould. When the Plants have three or four Leaves, prepare another Hot-Bed for them, and let them be carefully tranſplanted into it, and ſet at ten Inches Diſtance.

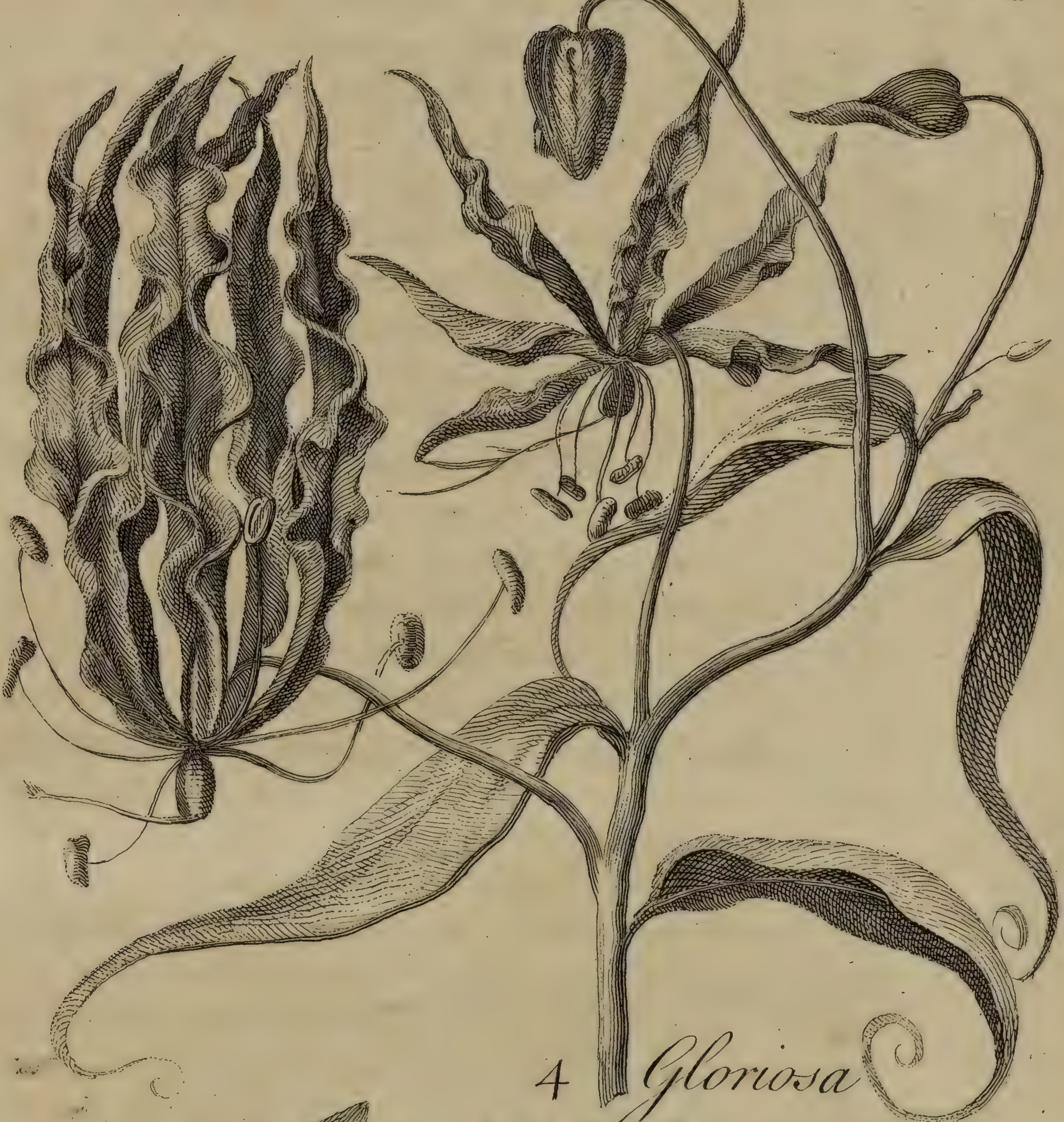
Here let them be watered often, but lightly each Time; and, as the Summer advances, give them more and more Air. When they have ſtood in this Bed a Month, prepare an artificial Soil of Garden-Mould and rotted Wood, and fill ſome Pots with it. Place in every one of theſe one Plant, and fix a Stick by it for climbing. Put ſome of theſe Pots into the Green-houſe, and ſome into the Stove, and treat them in each Place as the other Plants, according to the Seaſon: the Green-houſe Plants will thrive beſt during Summer, and ſome will flower. The Flowers are laſting, and have a great deal of Beauty.

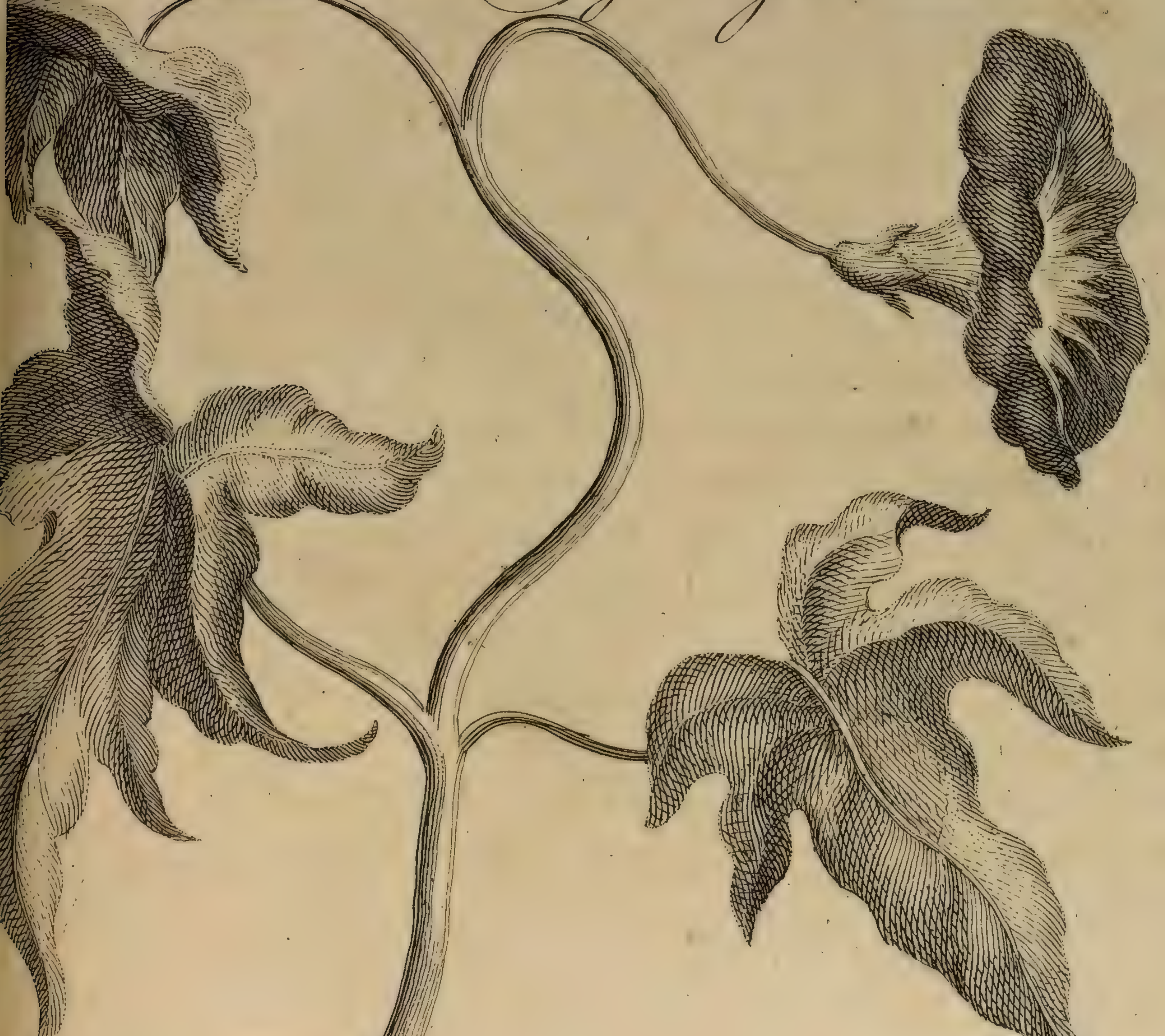
Pl: 3.

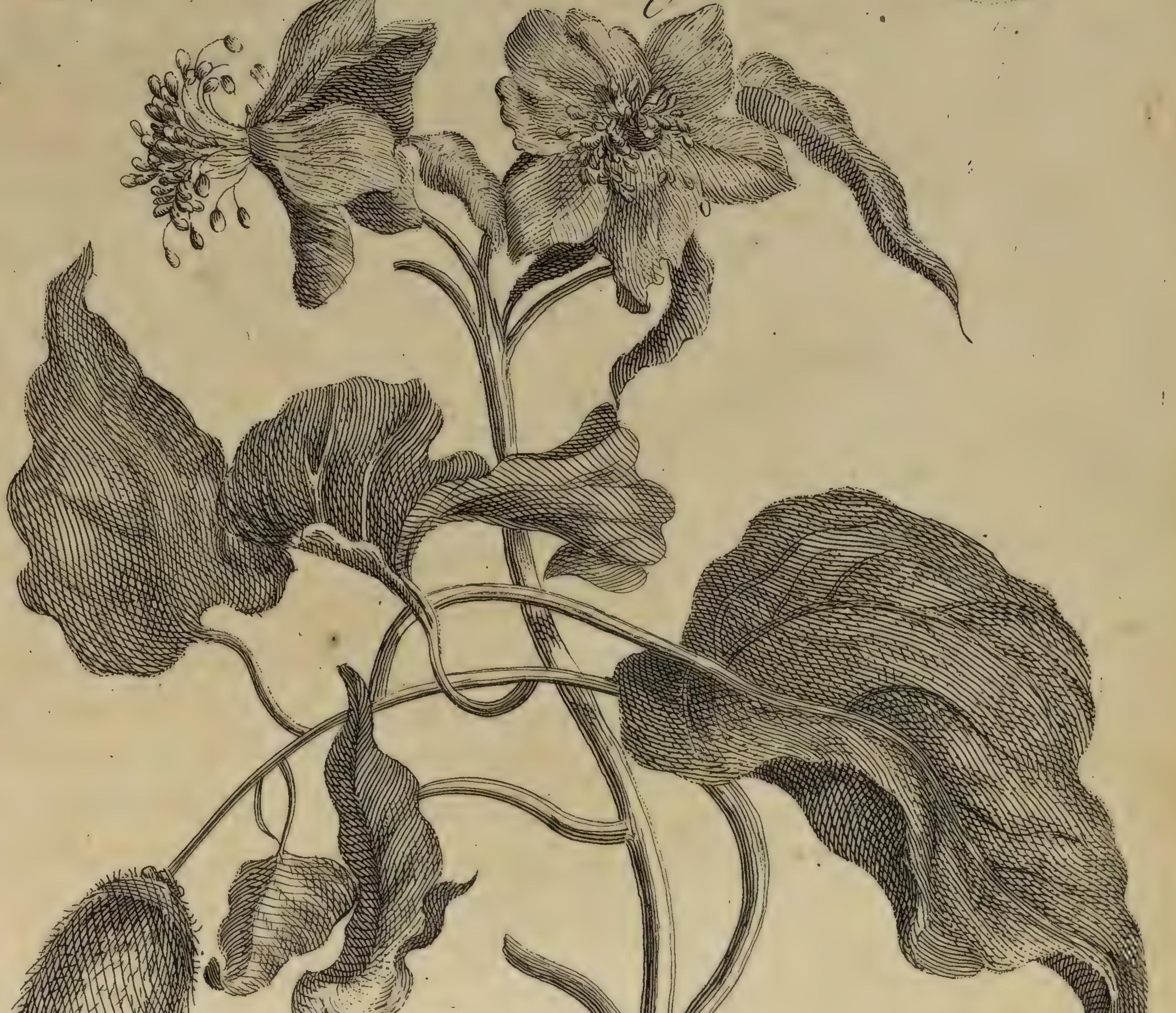

1 Canary Dracocephalum


2 Cotton Tree


3 Egg Nightshade


4 Gloriosa


5 Tuberous Bindweed


6 Bixa

Boyce Sculp

Sept.

6. BIXA, *called* ROUCOU *and* ORELLANA.

Sept.

Pl. III. Fig. 6.

This Shrub ſtands recommended to the Curious, both by its Singularity and Beauty.

It is commonly called by a Name given more properly to its Fruit, *Roucou.* Authors in general name it *Urucu* and *Orleana*; or, as ſome write it, *Orellana.* Bauhine calls it, *Arbor Mexiocana caſtaneæ fructu coccifera.* Linnæus, *Bixa.* This Name was given it firſt by Oviedus; and there need no Terms of Diſtinction to be annexed to it, as we know no other Species.

The Shape and Size of the Fruit is often different, but that ſeems only accidental Variation, the Tree continuing the ſame.

With our beſt Care it will riſe but to a moderate Shrub; but where it is native it grows much larger. The Stem is covered with a pale brown Bark; the upper Shoots are yellowiſh; and on the young Twigs there is often a light and elegant Tinge of Purple.

The Leaves are placed irregularly, and are in nothing conſpicuous, except in their elegant and gloſſy green. They are broad at the Baſe, narrower to the Point, and wav'd along the Edges. They have moderate Foot-ſtalks, and their Ribs are large and yellow, or purpliſh.

The Flowers are large, and of a pale but elegant red, often diverſified with Stains of white: they grow principally at the Extremes of the Branches, and have a Tuft of purple Buttons, ſupported by long Filaments, in the Centre.

The Fruit is large, and of an oval Shape. It is beſet with Prickles, and it is full of Scarlet Seeds. It is ſurrounded at the Bottom by a ſmall Cup, which is divided lightly into five Segments, and which before covered the Baſe of the Flower.

The Student, when he has obſerved the numerous Filaments in the Centre of this Flower, will recollect, that in order to diſtinguiſh between the two Genera, Icosandria and Polyandria, both characteriſed by numerous Filaments, he is to trace them to their Origin, and obſerve whether they riſe from the Inſide of the Cup, or from the Receptacle: he will in this Flower find they riſe from the Receptacle clear of the Cup: by this Diſpoſition and their Number, he finds the Plant is one of the Polyandria, the Thirteenth Claſs of Linnæus: and when he ſees the Style riſing ſingly among them, he will know it alſo belongs to the firſt Section, comprehending the Monogynia, or ſuch of the *polyandrous* Plants as have the female Part ſingle.

Thus he will underſtand to what Claſs to refer the Plant; but there is ſomething farther ſingular in the Flower: he will perceive that it reſembles the five-petal'd Kinds; but uſually he will find theſe Petals double. The Bixa may be ſaid to have a double Flower: there are naturally five outer and five inner Petals: the outer ones are hard and thick, the inner thin and tender. In this, however, Nature wantons frequently: though commonly ſeparate, theſe Petals ſometimes grow together, or are but imperfectly parted; in which Caſe it reſembles the common five-leav'd Flowers.

It is a Native of the hotter Parts of *America*, and is one of thoſe Plants that with us require the Heat of the Stove.

The Culture of the Bixa.

The Seeds are eaſily obtained, and it may be rais'd from them without Difficulty. The firſt Care ſhould be to have them freſh; for after two or three Years they will rarely ſhoot. When good, ſound, and freſh Seed is got, let a Mixture of two Parts Garden-Mould, one Part Sand, and one Part rotted Wood, be prepared: and with this let a Couple of common Pots be two thirds filled. Let the Seeds be ſcattered upon the Surface, and covered an Inch deep, and let the Pot be ſet in a Tan-Bed.

The Plants will appear after ſome Time, and they muſt be refreſhed with gentle Waterings, and allow'd a little Air.

When they have four or five Leaves a-piece, they muſt be tranſplanted each into a ſeparate Pot of the ſame artificial Soil, and gently watered. Theſe Pots ſhould be placed in another Tan-Bed, with a deeper Frame; and as the Weather grows warmer, and the Plants ſtronger, they ſhould have more Air.

The Waterings are to be repeated at Times, and the Air admitted carefully, till they have a good deal more Strength and Bigneſs: they are then to be removed into the Stove; and to take their Chance with the other Plants. They will not flower before the third Year: but they will be no unpleaſing Sight; in the mean Time their Leaves and Shoots being of an elegant and pleaſing Colour. Leſs Heat may keep the Bixa alive; but it will thus flower. Commelin is one of the many who raiſed it, but, for want of due Care, never ſaw its Flowers.

CHAP.

CHAP. II.

The Care and Management of the Flower-Garden, the ſecond Week of September.

WE have mentioned in a preceding Number, the bringing ſome Flowers out of the Nurſery into the Garden, and Preparation muſt now be made for all the others that are to be planted in Autumn. For this Purpoſe, let the Borders be examined as to the Condition of their Soil: ſome will be found exhauſted; others only ſtiff for want of digging. Labour alone is required for theſe; but, for the others, Labour and Manure.

Let the firſt be work'd up thoroughly and carefully, and the others enriched by ſome Barrows of very rotten Dung, which muſt be well mix'd and wrought in with them. When theſe are dug and enrich'd, let them lie ſome Days: they will get great Advantage from the Sun, the Dews, and Rain; and their Plantation will be a kind of ſecond Tillage. Gardeners do all together, and ſo they are directed; but it is like the reſt of their common Practice, very ill manag'd: the Advantage of preparing the Ground a Week beforehand, is equal to that of a tolerable Manuring.

There is great Pleaſure in ſeeing early Tulips, and the Gardener has a deal of Pride in their blowing well: Nature has alſo provided the Means of a long Succeſſion, but they are not regarded.

The NONSUCH, and the WINTER DUKE, the FLAMBOYANT, and the FLORIZANTE; the EARLY PERFECT, the MORILLON, and the PRETTY BETTY; the APOLLO, the VICEROY, and the HARLEM JEWEL, with ſome others which we ſhall name, when we treat of their Seaſons of flowering, will come very early, if rightly managed. They ſhould be put into the Ground this Week; and, if the Seaſon favour them, they may be expected in all their Beauty at the End of *March*.

They are very handſome Flowers, and ſo different from the others, that they ſhould, for that Reaſon, alſo be kept ſeparate.

They are ſhort in the Stalk, and therefore look irregularly among thoſe of a later Seaſon. They alſo flower at ſo different a Time, that it is very improper to mix them. One wiſhes to ſee a Bed of Tulips in their Glory all together; but theſe, as Matters are commonly manag'd, are decaying, when the reſt are beginning to be in their Glory.

Let the ſame Care be taken for theſe fine Flowers that we have ordered for the Perennial Plants. Let the Borders be dug up and prepar'd for them, that they may lie a Week before the Roots are planted; and in ſome that were dug a Week ago, it will now be Time to plant early Anemonies. They muſt not be the fineſt Kinds, for thoſe ſhould not be expoſed to ſo much Danger; but ſome of the others: in Places where they are well ſhelter'd, will have a Chance of coming at a very early Time.

Laſtly, look over the Box-Edgings; repair where they are faulty; take up and replant them when they are grown too large; and thus cloſe, in this Part, the Buſineſs of the preſent Week.

SECTION II.

Of the Buſineſs of the SEMINARY, *for the ſecond Week in* September.

WE have obſerved, that Plants and Trees will require to be remov'd, not only from the Seminary into their Places in the Garden, but into different Quarters there, as they encreaſe in Size, and crowd upon one another.

The common Cuſtom is, to ſet about this at a certain Time, and go through all the Buſineſs at once: but this alſo is wrong. The Seaſon for tranſplanting with leaſt Danger or leaſt Damage, is juſt when the Leaves are decay'd. This happens on ſome Plants ſooner, and on others later; it is therefore extremely wrong to remove all at once. Let the Labour be divided by the careful Gardener; and the ſeveral Kinds, according to their Nature, remov'd, as the true Notice of the proper Period, the Fall of their Leaves, directs.

Let a large Hole be open'd for receiving each Tree that is tranſplanted, and let the Earth be very well broke in it: this might ſeem a needleſs Caution, becauſe it is ſo univerſally known to be right and proper; but it is one of many Inſtances, that what is very well known, is ill practiſed. There is nothing in which ſo much Neglect is ſhewn, and there is nothing ſo deſtructive. Half the Trees that fail in a Seminary, as well as afterwards, on the Removal to their Places in the Garden, are loſt by this Careleſsneſs, of not making the Hole large enough, and not breaking the Earth fine.

SECTION III.

POMONA, *or the* FRUIT-GARDEN.

CHAP. I.

Fruits now in Perfection.

THE principal Fruits come to Ripeneſs ſince our laſt, are theſe: 1. The CHANCELLOR'S PEACH: this is an excellent kind; it is moderately large, covered with a thick Down, red all over, except near the Wall, where it is whitiſh; and full of a rich melting Juice. The Pulp is yellowiſh, and it is red near the Stone.

2. The TETON DE VENUS. This is a round handſome Peach, with a large Cleft on the Side; ſometimes it is a little longiſh, but this makes no Difference in the Kind: it is of a pale whitiſh green Colour; only on the Part moſt expoſed to the Sun, there is a little red. The Pulp is white, and the Juice is rich and excellent.

3. The ITALIAN PEACH. This is of a longiſh Shape, and of a yellowiſh Hue, next the Wall, and a deep purple on the ſunny Side; it is of a middling Size, and very well taſted; and it is red near the Stone. It requires that the Gardener underſtand his Buſineſs to get theſe ripe; but, with due Knowledge, this is their proper Seaſon.

Of the Plumb Kind, 1. The MAITRE CLAUDE ripens now: it is a round green Plumb, pretty large, and it much reſembles the green Gage. It is a little ſmall at the upper End, and has a Furrow on one Side, and the Stalk is ſhort. It is full of a rich and pleaſant Juice.

2. The MANGERON is alſo now coming in. It is a round Plumb, of a middle Size, and is duſted over with a fine blue Powder. It is not very juicy, but is of a fine Flavour; and it is valued becauſe the Pulp parts freely from the Stone.

The ROBIN PEAR ripens now, and is greatly eſteem'd for its muſky Flavour. It is thence call'd alſo the MUSCAT, or MUSK ROBERT, and the *French* King's favourite Pear. It is roundiſh, but ſmall toward the Stalk, and full at the Eye. It is a very excellent Pear when juſt ripened.

CHAP. II.

Of the Care and Management of Fruit-Trees.

THIS is the Time of reaping the Advantages of a Year's Care and Trouble; but without a very watchful Eye, the Gardener will have labour'd to feed Inſects, not to ſupply the Table. We have already ſpoke of ſome of the larger kind of Devourers. But the Wall-Fruit at this Time, eſpecially ſuch as grows againſt old Walls, is vaſtly liable to a ſmall but numerous Enemy, the Ant. This little Creature lives in the Earth of ill-manag'd Borders, and lurks in the Cracks of Walls, where the Mortar has fallen out, and in old Nail-holes. The Gardener ſhould obſerve which is the Caſe, in the preſent Inſtance, whether they come up from the Ground, or live in the Cracks and Crevices of the Wall. If they come up from the Ground, let him open a little Trench with a Hoe juſt under the Wall, and pour into it a Mixture of Brine and Soot.

This is very hateful to the Ant, and will be far from damaging the Tree; for it will ſerve as a Manure to improve its Vigour.

Let him in the other Caſe make a good Quantity of the ſame Mixture, and taking it in a Pan with a Painter's Bruſh in his Hand, let him go over the whole Length of the Walls, obſerving where they lodge, and daſhing in a good deal of the Mixture in ſome Places, and rubbing it on with the Bruſh in others.

Let him look well for every Crack and Hole, and in this Manner he will deſtroy a good Number of them, and diſlodge many more, who will forſake a Place ſo diſagreeable, and never return.

As he goes along, let him here and there pull off a decay'd Peach or Nectarine that is half eaten, and lay it carefully upon ſome of the Branches.

The Ants will gather to theſe rather than the entire Fruit which is growing; and two or three Times a Day theſe Fruits may be taken off full of them, and thrown into a Pan of Water. The Ants will immediately get off, and the Fruit may be laid on for more, theſe being left to drown.

This is the beſt Method the Gardener can follow, who has the Care of an old ill-managed Wall; but we ſhall in the ſucceeding Numbers inform him how to prevent the Evil.

The Holes are to be ſtopped by new pointing the whole Wall, and the Borders are to be dreſſed with a peculiar Kind of Manure.

Theſe Things we ſhall direct more particularly when we come to the Months they concern; and by this Means the Fruit will be perfectly ſecured from ſuch Devourers.

SECTION IV.

CHLORIS, *or the* KITCHEN-GARDEN.

As the Products named in our laſt continue good now, and there are no new ones which require immediate Notice; we ſhall devote the ſucceeding Pages to the uſeful Labours in the Ground.

FROM the Fruit let the Gardener turn his Thoughts to the Kitchen Quarter, and there continue and repeat his Labour.

We ſhall occaſionally direct him what to ſow and plant every Week in the Year; and we ſuppoſe him to have the Care of a Garden at this Time, planted and ſown according to the common Methods.

If there have been tolerable Management, there have been ſown about the Middle of *Auguſt* Onions, Cabbages, Coleworts and Carrots.

Theſe will be appearing now, and great Care muſt be taken to deſtroy the Weeds that will riſe with them.

Nature follows the Gardener's Hand in every Step; and ſows Weeds wherever he puts in the Seeds of his Crops.

Theſe grow faſter than the uſeful Herbage; and they muſt be pulled up, or they will rob it of its Nouriſhment, and choak every Plant.

While this Care is taking of the Crop already ſown, Attention muſt be had to the ſucceeding Sowings; and Care muſt be employed in ſaving the Seeds for them.

Theſe ripen every Day in *September* upon ſeveral Kinds of Plants, and the Gardener ſhould watch them.

He ſhould gather them ſucceſſively as they are fit, and ſpread them in an airy ſhady Place.

There they are to lie till perfectly dry in the Huſks; and then they are to be ſeparated and cleared from them; ſpread out a Day or two more to harden, and then put up to be ready for Uſe.

Moſt Gardeners hurry this Buſineſs up together; but Nature ſhould be watched, her Times of ripening obſerved, and ſomething done every Day, not every thing together.

This Method as it is beſt, is alſo eaſieſt; it divides the Work, and makes every Part go off more pleaſantly.

The Cauliflowers of different Growth muſt at this Time employ the Gardener's Attention in a various Manner.

Thoſe which are forming for a late Crop will be in Need of Water; and on the contrary there is nothing from which the young Plants meant for the coming Seaſon will ſuffer ſo much Damage.

This is a Time at which the Rains are chilly: the Effect they take is rotting the Stems of theſe tender Plants; and that is an Injury they never recover. Theſe muſt be ſheltered therefore from thoſe Showers, which will be ſo beneficial to the others.

Brocoli is another of thoſe Products which require at this Time a particular Care.

The firſt Froſts are to be expected ſoon, and it is therefore a Seaſon for the lateſt Tranſplantation.

It will be proper to plant a ſmall Parcel now; for that will have the Chance of rooting before the Froſts hinder; and it will, by this Means, come in a very acceptable Seaſon.

We adviſed the Gardener in our laſt Number to gather his Spawn, as it is called, of Muſhrooms, in order to make a Bed for them; and we ſuppoſe it laid according to the Directions then given to prepare it for planting.

Toward the End of this Week let him make the Bed; for about ten Days is the Time that the Spawn ſhould lie before it is put in.

He ſees that Muſhrooms grow in common Paſture-Ground; but he is not for this Reaſon to plant them in common Earth.

Where there has been moſt Dung, they come up in general moſt plentifully; therefore it is plain he may promote their Growth by that Means.

Nature ſhews him in the Fields, that Dung which has been ſome time paſt its great Heat, is in the beſt Condition to promote their Growth; and let him follow her Steps alſo in this.

Upon theſe Principles, and with this Care, he may plant his Spawn with a Certainty of Succeſs.

Let him chuſe out ſome rich Dung that has lain together about three Weeks, and is mellowed, and grown cool from its firſt violent Fermentation.

Dig a Trench a Yard wide and four Yards long for the Dung; or if a large Quantity of Muſhrooms are intended to be raiſed, let there be three or four of theſe Trenches dug parallel one with another. In this Caſe they generally ſucceed better than when only one is made, becauſe they ſhelter each other; and the Seeds from the Muſhrooms that ripen on one, are carried by the Wind to another.

Pile up in each Trench a good Quantity of the Dung; lay the Surface very even, and cover it half a Foot thick with fine freſh Mould, taken from under the Turf in the ſame Places where the Spawn was gathered.

The common Practice of our Gardeners is to make this firſt Bed of Dung, about twelve Inches thick; and in this they follow the Directions given them by the common Writers; but it is wrong: the firſt Bed ſhould not be leſs than two Foot in Thickneſs; for otherwiſe the Moiſture and gentle Warmth, which are what the Gardener depends upon, are not ſufficient to give

Sept. give the firſt Swelling to the Spawn; and often three fourths of it periſh.

When the firſt Bed of Dung is thus laid, and the Earth is ſpread over it, let the Gardener go round with a Parcel of his Spawn carefully preſerved with the Earth about it, and lay in a Piece of Spawn with its Earth near the Edge at every ten Inches. Over theſe let there be ſpread a freſh Covering of Earth three Inches thick, and upon that is to be laid another Bed of Dung: this muſt be a Foot thick; and it muſt be drawn in a little every Way, that it may not over-hang and ſmother the Muſhrooms.

Upon this Bed of Dung lay another Parcel of the ſame Mould five Inches thick, and lay upon this ſome more Knobs of the Spawn at equal Diſtances between each of the lower Parcels. Put no Mould over theſe; but lay on ſome more Dung about eight Inches thick.

Then lay on two more Beds of Dung and Mould as the laſt, placing ſome Spawn upon the Mould, at Diſtances all the Way, and working up the whole, like the Ridge of a Houſe, to a Kind of Edge.

When the Bed is thus finiſhed, go over it carefully with a very little Water. This is a nice Article, and the Succeſs of the Plantation in a great meaſure depends upon it.

The Intent of the Bed is, that it ſhall get into a ſlow and gentle Fermentation; and a little Wet promotes this, but too much utterly prevents it.

A three Gallon watering Pot is enough for a twelve Foot Bed.

Let this be given lightly and regularly to every Part; and then cover the whole a Foot thick with dry Litter.

Leave the Bed thus to Nature; the Principle of Vegetation is ſtrong in the Spawn, and there requires only a due Proportion of Warmth, and a moiſt Vapour to ſet it in Action.

This will be ſupplied by the Dung, and will make its Way gradually and equally among the Mould; till the Spawn will ſwell, juſt as it would do under the moſt favourable natural Circumſtances.

The common Practice allows much leſs Earth than is here directed; but Experience has ſhewn, that the Heat and Moiſture of the Dung will in this Manner very well penetrate thus much of the Mould; and that being allowed, the more Earth there is for their Growth, the better they will be; for though Dung be very aſſiſtant in promoting the Riſe of Muſhrooms, it is not their proper Soil.

Every one knows the Difference between Muſhrooms from the Bed, and thoſe from the Field; but the inferior Quality of the Bed Muſhrooms is owing to the ſmall Allowance of Earth, and to the Gardeners not underſtanding that Dung is not their proper Nouriſhment.

They have Muſhrooms quicker from the uſing a ſmaller Quantity of Mould; but they are finer where there is more; and the Beds laſt longer.

This is ſeen by the Courſe of Nature in producing the Muſhrooms in this Bed, made as we have directed.

There appear ſome upon the upper Part of it, where the Dung in a Manner touches the Spawn, ſome Days before there are any ſeen on the lower, where they are well covered with Mould; but then theſe firſt Muſhrooms on the upper Part are brown and rough; whereas thoſe which come a little after on the lower Part, are white, ſmooth and ſatteny on the Surface, and have the true wild Sweetneſs in their Flavour. Sept.

In about a Week there will be ſome Muſhrooms ſeen; and when there is the firſt Appearance of any, there will ſoon be more: the Bed muſt be ſearched, and they muſt be gathered as they ripen.

It is beſt in this young Condition of the Bed, not to let any of the Muſhrooms which riſe grow large; for that exhauſts the Spawn. It is an univerſal Obſervation, that the more regularly they are pulled, the more of them appear.

The Bed thus made will continue good a conſiderable Time, and will yield Muſhrooms at Seaſons when they are not to be had from the Fields; but the greateſt Abundance from the Beds is always at the natural Seaſon in the Fields, that is, in Autumn.

Two Things are moſt apt to be prejudicial to a new-made Muſhroom Bed; the Cold and Wet of the Beginning of Winter; and the breeding of Worms.

The Care to be uſed againſt the firſt is very natural; for there muſt be more Litter ſpread over them. This keeps in their own Heat, and defends them from the heavieſt Rains, by the Aſſiſtance of their own Shape, when made as we have directed; for the Wet runs off, and does not ſoak in when any get through the Covering of Litter.

The Worms that infeſt a Muſhroom-Bed are ſmall and white: they are of the Maggot Kind, and are produced in the ſame Manner.

I have known Millions in ſome ſmall Spots, where they have devoured all the Rudiments or Spawn.

The Muſhroom when it grows large ſmells ſtrongly, like Fleſh. This induces the Flies of ſeveral Kinds to blow it.

They lay their Eggs there, and ſoon hatch into Maggots, or the ſmall white Worms.

Warmth and Moiſture are what they require for their Support, together with their Food; and here they have all in Abundance; they thrive therefore, and they devour at a vaſt Rate.

The Place where theſe Flies lay their Eggs, is juſt at the Bottom of the Stalk, and their Time of doing it, is when they are grown large and ſwell.

This, beſide the exhauſting the Strength of the Bed, is a great Reaſon why the Muſhrooms ſhould never be ſuffered to remain on it till grown very large.

The common Practice directs the pulling them ſooner; and the common Doctrine is, that when they ſtand to decay upon the Bed, they rot it.

This is not the Reaſon of the Damage which follows the leaving Muſhrooms to take their full Growth, and to decay upon the Bed.

They in that Caſe ſow themſelves, and produce many young ones in irregular Places; as upon the Ground, and on the dungy Part of the Sides, where they are ill rooted; but while there is this ſlight Advantage of a few ill ſupported ſingle Muſhrooms from this, the great Reſource of Spawn, which had been encreaſing in the Earth a Year when it was taken up, are eat to Pieces by the Worms bred from the Eggs of Flies in the old Stalks.

This ſhews the Neceſſity of gathering Muſhrooms from the Bed before they are too large; and there is yet another Caution to be obſerved, which is, that they be taken up entire.

Some careleſs Gardeners break off the Stalk at the Ground, and others I have known ſo over careful, that they have cut them. Both are very wrong; for in either Caſe there is left the Stump of a Stem, which the Flies will blow as readily as the entire Muſhroom; and their young have thus leſs Way to eat down to the Spawn, than where the Muſhroom is left whole.

The right Method is to draw them out with a gentle Twiſt.

Some pull them up ſtrait; but this breaks that Part of the Bed on its Surface, and there often comes away ſome of the Spawn with the Stem.

The gathering one Muſhroom thus careleſly, will be the deſtroying of fifty.

When they are gathered by twiſting, they generally come up entire and clean: and if any of the Spawn happens to come out this Way with the Stalk, it muſt be carefully taken off, and put into ſome other Part of the Mould.

Heat and Moiſture are the two great Requiſites for making the Spawn grow; for without theſe Aſſiſtances it will lie unactive: but when it has once been brought to ſhoot in one of theſe Beds, the great Care of the Gardener is over; for he will never afterwards, unleſs by very bad Management, want a Supply.

Theſe Beds will afford more and more Spawn, provided they are preſerved from Worms; and when one of them has laſted ſeveral Months, and will yield no more Muſhrooms, it is carefully to be taken down, and the Mould ſearched for Spawn.

It will be found that it is not Want of this which has occaſioned the Barrenneſs of the Bed, for there will be much more than was at firſt put in; the Want of a due Heat and Moiſture has been the Occaſion.

This therefore is to be taken for the planting in other Beds; and what is not uſed at this Time may be preſerved till it is wanted.

The Spawn of Muſhrooms will keep, like the Roots of bulbous and tuberous Plants, a long Time out of the Ground, four or five Months if neceſſary; and will always be ready to grow, if thus planted with due Care.

The *French* raiſe Muſhrooms without Spawn; at leaſt they are not very nice in ſearching for it.

They pile up a Heap of Dung, and lay ſome freſh Mould taken from under the Turf upon it.

This they cover with freſh Litter, and water once in three Days; and they ſeldom fail of having Muſhrooms.

I have ſeen the ſame Practice in *England*; and ſometimes it has been ſucceſsful, ſometimes not: but it has never ſucceeded ſo well as in the regular Plantation.

The *French* complain of their Beds ſoon ſpoiling; and their Deſtruction is always owing to Worms.

This proceeds from one Cauſe in all Places; and would eaſily be prevented by obſerving our Directions.

They always cut their Muſhrooms, inſtead of pulling them up; and by that Means they invite the Flies and Beetles to blow the Stumps.

A Bed ſeldom laſts there more than three Weeks; and it is owing to this Cauſe.

We ſhall cloſe this Account of the Muſhroom Beds, with a Method by which they may be raiſed in greater Abundance than any other Way; but they will be inferior in their Flavour.

Mix together equal Parts of freſh Dung, old rotted Thatch, and of chopped Boughs of white Poplar. Lay this in a Bed two Foot thick; lay ſome Earth upon it; put in ſome Spawn of Muſhrooms, and cover it with a little more of the ſame Mixture; throw over all a good Quantity of Litter, and moiſten the Bed carefully every Morning.

The Caution is to keep it damp, and yet not drown it.

There is a peculiar Fermentation excited in this Mixture, which vaſtly promotes the Growth of Muſhrooms; but they are not ſo pure or delicate as otherwiſe.

The fineſt of all Muſhrooms are thoſe in the Fields; the next to thoſe are ſuch as are raiſed on regular Beds, as we have deſcribed; and the worſt are theſe.

The laſt Method is alſo very precarious: if it be rightly managed, the Produce for two or three Weeks is ſurpriſingly great; but if too much or too little wetted, it yields none.

The Practice we have directed of taking up the Mould for the Bed from the very Places where the Spawn is gathered, is a Thing not known to Gardeners, but it is a vaſt Improvement.

There is by this Method a Certainty of having ſuch Earth as the Muſhrooms like to grow in; and probably there are Millions of little Particles of the Spawn taken up among it, which, though not perceptible to the Eye at the Time, ſoon ſwell, and grow under the Advantage they have of Heat and Moiſture.

We attribute it partly to this Choice of the Earth, and partly to the allowing more of it than others, that the Muſhroom Beds made under our Direction have ſucceeded particularly well.

This is certain, that their Produce has been always much greater, and often double that of ſuch neighbouring Gardeners as have been very able to underſtand the common Inſtructions given for this Purpoſe, and very punctual in following them.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER IV.

For the Middle of *SEPTEMBER.*

SECTION I.

FLORA, *or the* Pleasure-Garden.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

1. *The true* ACANTHUS.

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Pl. IV. Fig. 1.

THIS Plant demands the Attention of the Curious, for a ſingular Reaſon, not for the Beauty of its Flowers (tho' the whole Arrangement of them is not unhandſome) but for its Leaf.

This has been celebrated for the Gracefulneſs of its Form in all antient Time; and gave a *Grecian* Sculptor the Idea of that elegant Part of regular Architecture, the Capital of the *Corinthian* Order.

Its vulgar Name is Bears-breech. Authors, in general, call it Acanthus, *Acanthus mollis*, and *Acanthus Virgilii*; ſome *Branca Urſina*; but that Name is leſs known: its proper Title is, *Acanthus foliis ſinuoſis inermibus*; by which it is diſtinguiſh'd from all other Species.

It is a wild Plant of *Greece* and *Italy*, and will grow freely in good Soils with us; without any particular Care or Culture.

The Root is thick and full of Fibres. The Stalk is fleſhy, round, purpliſh or pale green, not much branched, and about a Yard high. The Leaves are long, and moderately broad; their Colour is a freſh and lively green, with paler Ribs; and they are wav'd and indented at the Edges in a regular Manner, and with unequal'd Beauty. The Flowers adorn the Top a Foot in Length, cluſtering along the Stalk in a thick Spike. Singly they are ſmall: they are plac'd in a kind of triple Cup, and are ſucceeded by a dry Capſule.

To know the Claſs, the Flower is to be examined ſtrictly; and we are to caution the Student that he be not raſh in determining concerning it. He will firſt find the Appearance of a Claſs he knows very well; but better Examination will ſhew him, that it belongs to one with which he is not yet ſufficiently acquainted. Firſt, let him obſerve the Flower, whoſe Structure is very ſingular. It is of the labiated Kind, or thoſe which open with a Mouth, but it wants the upper Lip. It is form'd of a ſingle Petal, tubular at the Baſe, with a kind of Beard, which cloſes the Hollow: the lower Lip is very broad, and divided deeply. This Structure of the Flower abundantly diſtinguiſhes it from all the Plants of the ſame Claſs: and in the internal Parts is to be found the Character.

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We muſt remind the Student now of what we have told him before. That the Number of Filaments in a Flower, never is the Mark of a Claſs thence named, unleſs they are equal in Length and Diſpoſition. On inſpecting the inner Part of this, he will find four Filaments. He would be right in referring the Plant to the Tetrandria, if theſe were equal; but, on a nice Inſpection, he will perceive that two are longer than the others: this ſhews it to belong to the Didynamia; thoſe in whoſe Flowers there are two Filaments longer than the reſt, and therefore underſtood to be more efficacious, that being the Senſe of the Term.

This Claſs is divided into two Sections; and the Diſtinctions of theſe are not founded, as uſual,

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upon the Form of the Style, or Female Part, but on a more eſſential Character: the firſt Section comprehends thoſe Plants which have this Kind of Flower followed by naked Seeds; and the other, thoſe which have the Seeds in Capſules. We have obſerved, that the Seeds of ACANTHUS are lodg'd in a Capſule: it is therefore one of the ſecond Section of LINNÆUS's fourteenth Claſs, the ANGIOSPERMIA.

The Culture of the ACANTHUS.

This is very eaſy. Its Root encreaſes faſt, and its Seeds ripen freely. It may be propagated by taking an Off-ſet from an old Root, and planting it in *March:* but the beſt Way is to raiſe it from the Seed; this ſhould be gathered when full ripe, in Autumn, and kept till the ſucceeding Spring.

A great deal depends upon a proper Soil, and due Condition of the Ground; and to this it is owing, that though the ACANTHUS is common in the Gardens of the Curious, we ſeldom ſee it in its full Beauty.

There are Books extant, which tell the Gardener in what kind of Soil Plants grow in their natural Wildneſs: to theſe he ſhould have referr'd for that Knowledge; thoſe who call themſelves his Inſtructors, being uſually deficient. We ſhall, in this Work, ſave him the Trouble of ſuch Reference, intending it ſhall ſerve him as a kind of Library.

In *Italy* the ACANTHUS flouriſhes in a deep Soil, where there is Water near, and where it is not quite deſtitute of Shade. This let him imitate ſo far as Circumſtances permit. Let him chuſe for his ACANTHUS the dampeſt Part of his Garden: let him dig the Mould deep, and in the firſt Week of *March* ſow the Seeds; they are beſt dropp'd at Diſtances into ſhallow Drills, and covered three quarters of an Inch with Mould. Here they will ſhoot up freely; and, when riſen, the ſtrongeſt Plants ſhould be mark'd, and the reſt pull'd up, that theſe may ſtand at a Yard Diſtance. They will ſpread out their beautiful Leaves into circular Cluſters, and will flower late at Autumn.

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The Antients tell us how CALLIMACHUS ſaw, where a Baſket covered with a Tile had been ſet upon a Root of this Plant, and the Leaves had ſhot up, and Stalks with them; which riſing to the Tile, there became ſtop'd, and turn'd themſelves ſpirally under it. What the Sculptor ſaw in Nature, he transfer'd to the Decoration of his Science.

Thus far the Architects relate the Story; and they are right to ſtop, for they muſt bluſh if they purſue it farther. — Who put inſtead of the Acanthus-Leaf, the Triple-Laurel, or the more divided Olive? Certainly not CALLIMACHUS.

Theſe broader Leaves of Laurel, or narrower ones of Olive, they ſtick by Three's or Five's upon the Edges of the right Acanthus, and make the Leaf a Monſter.

Who cut off the Corners of the *Corinthian Abacus?* Not CALLIMACHUS; for he found Points upon the original Tile, and he ſhew'd the Beauty and the Spirit of their Sharpneſs!

We wonder when we ſee *Corinthian* Capitals, and, among them, thoſe wrought by the divine PALLADIO's Hand, at *Vicenza*, to ſee a Leaf ſo unlike what the Story tells, and what the true Taſte of the Antients ſo univerſally admir'd: but theſe are the wild Liberties of Fancy. Happily there yet remains among the Ruins of one of VESTA's Temples, a Capital of this Order, cut according to the original Invention; its Corners entire, and the true Acanthus-Leaf for its Ornament: it remains to ſhame the others.

2. RED PLUMERIA.

Pl. IV.
Fig. 2.

We gave laſt a Plant that bears our natural Climate: and, with the common Advantages of weeding and watering, will thrive in it as in its own. We here bring the Reader acquainted with one that will require more Care and Culture; but whoſe Beauty and Fragrance very amply repay the Labour.

Its *Engliſh* Name is RED PLUMERIA. PLUKENET has called it, *Clematis arborea. Merian Jaſminum Indicum:* and our SLOANE, the great Founder of the BRITISH MUSÆUM, *Nerium arboreum folio maximo obtuſiore flore incarnato.* There are ſome Particularities in which it differs from all theſe Genera, and it has thence been diſtinguiſhed by a peculiar Name, PLUMERIA; ſo called from PLUMIERE, a *Frenchman*, to whom Botany has great Obligations. LINNÆUS adds, by way of Diſtinction, the Form of its Leaves, and TOURNEFORT the Fragrance and Colour of its Flower. The firſt calls it, *Plumeria foliis ovato-oblongis*; *Plumeria*, with Leaves of an oblong oval Form: the other, *Plumerio flore roſeo odoratiſſimo.*

Let not the *Engliſh* Reader be offended to ſee this Native of our Colonies named after a *Frenchman:* Science knows no Diſtinction of Country; and PLUMIERE deſerv'd the Honour. He will have Cauſe to bluſh, when he is oblig'd to call ſome other new-known Genus by the Name of ſome mean, perhaps, or ignorant Perſon; but ſo far has Partiality led thoſe, whoſe Genius and Knowledge rais'd them to the Rank of telling the World what they ſhould call ſome of the moſt diſtinguiſh'd Beauties of Nature.

Our Buildings, to which this elegant Species muſt be confin'd, will not allow it more than the Condition of a Shrub; but in *Jamaica* it riſes to a Tree; yet it will, in the lower Condition, flower in full Profuſion.

The Trunk is brown, the upper Branches are green, and the Twigs often purpliſh. The Leaves are very large, and of the Shape of thoſe of Laurel, oblong, broad, and pointed at the End. The Flowers are very large, and they ſpread out from the Tops of the Branches in numerous Cluſters. Their Colour is a very beautiful

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tiful red, and they have a Fragrance ſuperior to almoſt any other Flower.

Each has a ſmall green Cup; and is itſelf compos'd of a ſingle Petal, tho' ſo divided at the Opening, that it appears form'd of five large ones, of an oval Figure. Its lower Part is a long and ſlender Tube. When the Flowers fall, there appear a kind of double Pods ſucceeding each, and full of large imbricated Seeds.

To know to what Claſs it belongs, the Student muſt tear down the tubular Part of the Flower. He will in this find five Filaments growing from about its Middle: theſe are equal in Length, and regular in Diſpoſition; therefore the Claſs is to be determined from their Number; and the Student finds it is the Fifth of the LINNÆAN Syſtem, diſtinguiſhed by the Name PENTANDRIA. In the Centre of theſe riſes the Female Part, which is ſingle, but terminated by two little Coronets. The Singleneſs of the lower Part, has occaſioned LINNÆUS to place it among the MONOGYNIA: it is therefore one of the firſt Section of this fifth Claſs.

The Culture of the PLUMERIA.

Its Culture muſt be this: Let the firſt Care be to obtain from *Jamaica*, where it is native, ſome good Seeds, gather'd when full ripe, and of the laſt Year's Growth.

Let a Mixture of equal Parts, fine Garden-Mould, and the rotten Matter from the Bottom of a Wood-Pile, be carefully made, and with that fill a couple of middle-ſiz'd Pots. In each of theſe ſow about twenty of the Seeds, covering them with half an Inch of the ſame Earth; give them a gentle Watering, and place the Pots in a Bark Bed. Leave all to Nature, and the Seeds will ſhoot.

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Let the young Plants be thin'd, till only three remain in each Pot, and let them be refreſh'd occaſionally with Air and Water, as they require one, and will bear the other.

When they are of ſome Weeks Growth, take up two out of each Pot, leaving only the ſtrongeſt Plant. Set theſe carefully in other Pots, and then give all of them the ſame Care and Management.

After this, let one of the principal Pots be remov'd into the Greenhouſe, and the other into the Stove, and let them be manag'd there as the other Plants. Let their dead Leaves be pull'd off as they appear. Let them ſtand free from other Things; that they may not be drawn up weak, by means of their Shade; and let them be water'd as they require it.

This Method, which we direct for many other Plants, will ſhew in what Situation they thrive beſt, and flower faireſt; what Degree of Heat each abſolutely requires, and what Cold it will bear, without periſhing: this is an important Point, and can be determined only by Experience.

3. PEAR-FRUITED SOLANUM.

Pl. IV. Fig. 3.

This is a Plant whoſe extreme Singularity entitles it to the Notice of all who delight in theſe Things; and which is never paſs'd over without Notice by the moſt incurious Obſerver. Its vulgar Name is the *Barbadoes Batchelor's Pear:* ſome, from its Fruit having the Shape of a Breaſt with its Nipple, have called it *Solanum mammoſum.* LINNÆUS names it, *Solanum caule aculeato herbaceo, foliis cordatis quinquelobis, utrinque villoſis aculeatis.* Herbaceous Nightſhade with prickly Stalks, and Leaves heart-faſhion'd, divided into five Parts, and prickly.

It is a ſpreading Plant of a Yard high. The Stalk is green and round, and it is arm'd with many ſtrong crooked Thorns. The Branches ſpread themſelves irregularly, and the Leaves ſtand thick upon them. They are extremely ſingular and beautiful. Each has its ſeparate Footſtalk, and the Shape is ſomewhat Heart-like. They are broad at the Baſe, where they are uſually indented for the Reception of the Stalk, and they have five principal Diviſions. Their Colour is a ſtrong green, but it is rendered paler by a downy Matter that hangs about both Sides of them; and they are arm'd on each Side with numerous upright yellow Thorns.

The Flowers are ſcattered over various Parts of the Plant; and they are not conſiderable. Each is form'd of a ſingle Petal, which is tubular a little Way at the Bottom, and form'd into five large Segments at the Edge; and the Colour is naturally white, but ſometimes daſh'd irregularly with a duſky Purple.

The Fruit is the conſpicuous Product; this is ſaid to be of the Shape of a Pear, but that is an indeterminate Word, Pears being of various Forms: it reſembles, in Shape and Size, a common Fig, but grows at the large End to the Stalk. Its Skin is ſmooth, and its Colour is a pure bright gold yellow. The Plant will often have forty of theſe upon it at a time; and, in that Caſe, makes a very conſpicuous Appearance.

To know its Claſs, the Student muſt tear open a Flower. He will find its inner Structure perfectly correſpond with that of the Egg Nightſhade: This ſhews him to what Claſs it belongs, namely, the PENTANDRIA; and that it is of the firſt Section, MONOGYNIA; the Filaments being five, and the Style ſingle among them. It alſo ſhews him ſomething more, it juſtifies LINNÆUS upon the Principles of his own Method for joining that Plant with the Nightſhades.

TOURNEFORT, whom the popular Writers follow, ſeparates the Mad-apple as a diſtinct Genus, under the Name *Melongena*; but it is ſeen, upon Enquiry, that as the Filaments are the ſame in Number and Diſpoſition, ſo are the ſeveral other Parts of the Flower.

The Culture of the Pear-fruited SOLANUM.

Take Care to have ripe Seeds, either from Plants that have grown here, or, what is much better, from the *American* Iſlands, in moſt of which it is common.

Let

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Let a Hot Bed be prepared in Spring, and covered with good Garden-Mould, to the Depth of five Inches: cover it with its Frame; and when the Heat is moderate, carefully ſow theſe Seeds, covering them only half an Inch with the ſame Mould. This is the proper Soil for their firſt ſhooting, but afterwards they will require a lighter and a richer Earth.

We have, on ſeveral Occaſions, recommended to the Gardener the Earth from the Bottom of an old Wood-Pile, mix'd with the Remains of moulder'd Wood: this he ſhould always keep by him; and, with various Mixtures, it ſerves for a great Number of Uſes.

While the Seeds of this Plant are in the Ground, let him mix together two-thirds of good Earth, taken up from under the Turf in a rich Paſture, and one third of this Wood-Mould. Let them be well wrought together, and ſtand ready.

When the young Plants have a little Strength, let three or four ſmall Pots of this Earth be ſet ready, and into each of them let the Gardener put one of the Plants from the Hot Bed, taken carefully up, and ſet in with as much Care. Let there be a little Water given to each, cautiouſly, not to bear down the Stems; and then let the Pots be plung'd into another Hot Bed. Let them be manag'd carefully, ſhading and repeating the Watering at Times, till they have taken Root; after this let them have Air in the Heat of the Day; and water as they want it: then, when they have ſtood a Month, prepare freſh Pots and a freſh hot Bed for them.

The Gardener will not be frighted at the naming ſeveral Hot-Beds for the raiſing of this Plant, becauſe he knows they will, at the ſame Time, ſerve for ſeveral others. Let theſe larger Pots be brought to the Hot-Bed Side, with a little of the ſame Earth at their Bottoms. Let the whole Quantity that is in the others, be ſhaken out with each Plant, and plac'd entire upright in the new Pot. There will be ſome white thready Subſtances dangling from the Surface of the Lump in various Parts; theſe are the extreme Fibres of the Roots: they muſt be clip'd off clean with a Pair of Sciſſars; and then the Space between the Lump of Earth and the Edges of the new Pot, muſt be filled up with more of the ſame Soil. When all is in, each muſt have a gentle Watering, and then the Pots muſt all be ſet in a new Hot Bed. They will grow with great Vigour after this; and the Gardener muſt take Care to give them Air as they want it, and a little Water.

When they are grown too big for their Frame, as they naturally will be about the Middle of *July*, they muſt be remov'd into the Green-houſe. If the Weather be very favourable, ſome of them may be expos'd to the open Air, in a warm Place; if it be cold, they muſt be plac'd in the Stove. We always ſhall recommend the rational Practice of trying ſome in each Manner, that Experience may determine what they can bear; as that can be learnt no Way elſe.

They muſt be remov'd into the Stove early in Autumn, and they will ſometimes, in favourable Seaſons, and with very good Management, flower the firſt Year; but they ſcarce ever fail to flower and perfectly ripen their Fruit the ſecond.

This is the Method to be taken with all the tenderer Nightſhades: there are others which require, in the worſt Weather, no more Defence than that of a common Green-houſe; and ſome that are to be rais'd in the open Borders, theſe we ſhall occaſionally name hereafter: thus much is ſaid here, that the Gardener may not raſhly ſuppoſe this Method is needful to every Plant of the Name of Nightſhade.

4. YELLOW-FRUITED MOMORDICA.

Pl. IV. Fig. 4.

This is a Plant of ſuch extreme Singularity, that it cannot fail to recommend itſelf to thoſe who are curious in exotic Curioſities, the Fruit making a Variety among the reſt that is extreamly pleaſing. It is called in *Engliſh*, the *Male Balſam-Apple*. Authors have deſcribed it under the Name of BALSAMINA INDICA; and ſome have taken its *Indian* Name, PAVEL. LINNÆUS calls it, MOMORDICA *pomis angulatis tuberculatis foliis villoſis longitudinaliter palmatis*. MOMORDICA, with angular and tuberculated Fruit, and with Leaves hairy and longitudinally palmated.

The Root is fibrous. The Stalk is very long, but ſlender and weak: it ſupports itſelf by climbing upon Poles or ſtouter Plants, by means of extremely fine Tendrils; and in that Manner runs to a great Height.

The Leaves have long Footſtalks, and they ſtand in Pairs. They are hairy and of a pale green, and their Shape is ſingular. They are divided into long and narrow Segments, in a finger'd Manner; but theſe are not diſpos'd in expanded Lines from the Rib, but proceed a little forward from the Body of the Leaf.

The Flowers are large, and of a fine and elegant yellow, pale, but very lively. They riſe from the Places where the Leaves alſo are inſerted, and are frequent from the Top to the Bottom of the Plant. They have each its ſmall Cup, form'd of a ſingle Piece, and cut at the Top into five ſpreading Segments. The Body of the Flower is, in the ſame Manner, divided into five ſeparate Segments, and grows to the Cup.

The Fruits are not ſo numerous as the Flowers. There are, however, enough of them to engage the Eye, and very oddly diverſify the Scene where they ſtand.

The Shape of the Plant is very large, oblong, and ſwell'd about the Middle: it is ſmaller at the Baſe, and terminates in a ſharp Point. Its Surface is ridg'd, and beſet with numerous Tubercles; theſe are broad, low, ſharp-pointed, and hard. The Colour of the whole is at firſt a greeniſh white; but from this it by Degrees grows yellow.

Sept.

When fully ripe, it is of a fine gold Colour; and it then ſpits naturally at the Point, and diſcloſes many large Seeds of a gold yellow, within a bloody Rind, which falls irregularly over the Inſide of the Fruit and them.

Such is the Figure of this ſingular Plant: it remains that we enquire into its Place in the LINNÆAN Syſtem. It is of a Claſs different from all thoſe we have deſcribed before; and it will, when rightly underſtood, lead to the Knowledge of a great Article of that Syſtem.

The Student naturally tears open a Flower to this Purpoſe, and ſeeks the Number and Diſpoſition of its Filaments: probably, in the firſt he takes, he finds three; he is about to refer it to the third Claſs of the TRIANDRIA, for this Reaſon: but we muſt ſtop him, and deſire that he will pull another.

In this he finds no proper or perfect Filaments; he ſees three Fibres ſtanding looſe, but they have no Buttons on them. Theſe Buttons he knows to be eſſential to Filaments marking the Characters of Plants; and he then finds them in this Flower defective. Here he finds a Style riſing from the Rudiment of a Fruit plac'd underneath the Cup; and on referring again to the Flower where he found perfect Filaments; he there perceives no Style.

'Tis Time to explain this to him. In the Flowers we have hitherto ſelected for his Examination, the Male and Female Parts have been plac'd together in each. Theſe, which are the moſt common, are call'd hermaphrodite Flowers; but there are others, in which thoſe Parts are ſeparated farther: this Plant is an Inſtance. The Body of the Flowers is alike in all, yet ſome of them contain only Filaments, and others only the Style. The firſt are call'd Male Flowers, becauſe they have the male Parts perfect, and no female: the others are call'd Female Flowers, and they have no perfect Male Organs.

It happens in this Plant, that the male and female Flowers, tho' diſtinct in themſelves, grow on the ſame Stem: in others, only male Flowers grow on ſome Plants; and, on other Plants of the ſame kind, only female.

The latter Kinds we ſhall take Occaſion to ſpeak of more largely, when we treat of ſome one of them: they are only nam'd here, to ſhew the Diſtinction, and illuſtrate the Denominations of the Claſs.

Sept.

LINNÆUS places in one Arrangement, thoſe Plants which have male and female Flowers produc'd ſeparately on the ſame Plant. MOMORDICA is one of theſe. The Claſs is his twenty-firſt, and he calls it MONOECIA; a Term form'd of two *Greek* Words, and expreſſing, that the Flowers, diſtinctly Male and Female, grow on the ſame Plant. This is the Claſs of the MOMORDICA. But it remains to enquire, under what Section it is placed in that larger Arrangement.

We ſhall have Occaſion to explain to the Reader, on a ſubſequent Inſtance, a Claſs diſtinguiſhed by the Name SYNGENESIA; whoſe Character is, that the Buttons of the Filaments are gather'd into a Cylinder, and united in that Form. Here it is ſufficient to ſay, that as there are *monoecious* Plants, with the ſeparate Characters of moſt of the other Claſſes: wherefore thoſe Characters become, on this Occaſion, only the Marks of Sections.

This is a tender annual Plant; but it's Culture is not difficult.

The Seeds muſt be taken from the ripe Fruit, and preſerved till Spring.

They are then to be ſown upon a Hot-Bed covered ſix Inches thick with mellow Earth; for the Seeds are often deſtroy'd when this Coat of Earth is too thin. It will be a good general Caution to the Gardener, to make it thicker than he has ſeen others do it: all Plants will thrive better; but to this Species it is eſſential.

Another Hot-Bed is to be prepar'd to receive theſe Plants, or as many of them as are intended to be rais'd, when they have got ſome Height. Into this they are to be tranſplanted when they have four or five Leaves; and they muſt be water'd and ſhaded till they have taken Root.

After this Time they muſt have a little Water every other Day, and as much Air as the Weather will permit. When they are well grown, they are to be planted into large Pots of light rich Earth; and ſome of them may be ventur'd in a warm Border in the open Air: the potted ones muſt be plac'd where they can have Warmth and Shelter. They will run up againſt the Back of the Building, and cover a Part of the Wall very agreeably. They will not endure much Cold; but, if the Seaſon favour, thoſe which are moſt expos'd will produce the beſt and fineſt-colour'd Fruit.

5. *The* MUSK HIBISCUS.

Pl. IV. Fig. 5.

The Beauty of this Plant claims for it a Place in the beſt Collection: This is not limited to the Flowers, tho' they are large and noble; but the Manner of Growth, and ſingular Elegance of the Leaf, conſpire to it.

Its vulgar Name is ABEL MOSCH: ſome call it ÆGYPTIAN MALLOW. The common Writers treat of it under the Name of ALCEA ÆGYPTIACA, and FLOS MOSCHATUS. It is properly a Species of the HIBISCUS.

LINNÆUS has nam'd it, HIBISCUS *foliis ſubpeltato cordatis ſeptemangularibus ſerratis hiſpidis.* 'Tis not an eaſy Name but a very expreſſive one: its Senſe is, HIBISCUS, with rough, ſerrated, heptangular, cordated, and ſubpeltated Leaves.

The Senſe of theſe Terms will be very well comprehended. The lower Leaves have ſeven Points, the upper five or three, as he will ſee in our Figure. and he will obſerve that there is a heart-like Dent at the Baſe; and that the Stalk is not inſerted at the Edge of the Leaf, but ſomewhat underneath it.

There are Leaves in which the Stalk is fixed juſt in the Centre: theſe are called peltated, from their Reſemblance of a Shield. This approaches toward their Nature.

'Tis needful to give the Senſe of theſe Terms as they occur, no Dictionary having explained them.

The Plant is a Yard high; the Root is fibrous and ſpreading.

The Stalk is round, upright, and branched with a beautiful Regularity.

This is its Form in Nature; and let the Gardener ſee that he preſerve it, not injuring the Growth by rough Waterings, or careleſs Tranſplantation.

The Leaves are wonderfully beautiful: they are very large; they ſtand on long Foot-ſtalks, which are inſerted underneath in the main Body of the Leaf; and they are broad, and beautifully angulated.

Thoſe on the lower Part of the Plant have ſeven Corners; about the Middle of the Stalk each Leaf has five; and at the Top they have only three.

The Surface of the Leaf is rough; its Colour is an elegant green; and its Veins are purple.

The Flowers are numerous and very large. They are diſpoſed at Diſtances upon the Stalks. From near the Bottom to the Top they are vaſtly large, and of a pale but very lively yellow, ſtained in the Centre with a bloody Circle. Each is compoſed of five large Petals, and placed in a double Cup.

When theſe are fallen, there appears a large brown Seed-Veſſel, in which are numerous ſweet-ſcented Seeds.

The Student will not be at a Loſs to find whither to refer this Plant in the LINNÆAN Syſtem.

He will ſee it has all the Characters of the Fig-leav'd Hibiſcus, deſcribed in our firſt Number.

When he ſees the Filaments formed into a ſingle Body, he will know the Plant belongs to the ſixteenth Claſs, the *Monodelphia:* and when he obſerves the Number of the Antheræ, he will perceive it belongs to the *polyandrous* Section.

Culture of the MUSK HIBISCUS.

It muſt be raiſed with Care from Seeds; and the firſt Caution muſt be the having them good.

In the Beginning of *March* they muſt be committed to a moderate hot Bed covered well with fine Mould; and when the Plants have two Inches Height, they muſt be removed into another.

In this they are to ſtand five Inches diſtant.

They muſt be watered lightly, and ſhaded carefully, till they have taken Root; and then there muſt be as much Air admitted as the Seaſon will allow.

When they are here grown to ſuch a Height that they can no longer be contained in the Frame, they muſt be carefully planted out into Pots, and watered and ſhaded till they have taken Root.

They muſt after this be allowed as much free Air as they can bear, and they will flower in great Perfection.

The Seeds have not the Sweetneſs here, that they have in the natural Climate.

6. GOLDEN POINCIANA.

Pl. IV. Fig. 6.

No Plant deſerves more a Place in the Collection of the Lover of Exoticks than this.

The Flower is elegant in the higheſt Degree; and there is great Beauty in the Leaves, and in the Manner of growing.

It is called in *Engliſh*, *Barbadoes Flower Fence*, and *Peacock's Feather:* It is alſo called, but very improperly, *Ebony.* The common Writers call it *Criſta Pavonis*, *Frutex Pavonius*, and *Flos Pavonis.* LINNÆUS, *Poinciana aculeis geminis: Poinciana* with double Prickles.

The Root is fibrous and ſpreading; the Stem is firm, upright, branched, and ten Feet high; it is brown on the lower Part; the youngeſt Shoots are green, and the Foot-ſtalks of the Leaves are often ſtained with red.

The Leaves are placed at Diſtances, and are extremely beautiful.

They are in the whole very large, but each is compoſed of almoſt innumerable Parts.

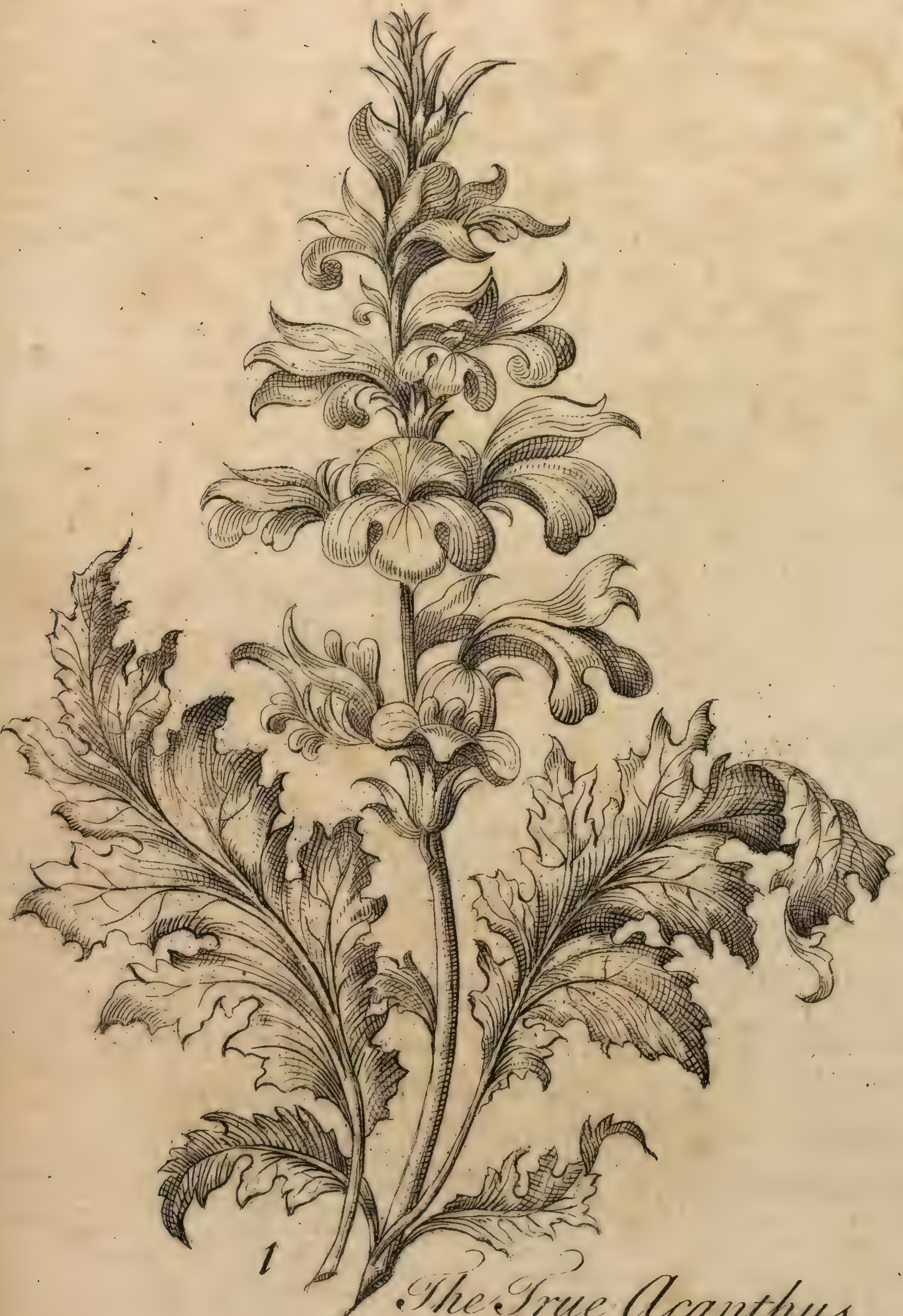
Theſe reſemble ſo many ſeparate Leaves, and they are oblong, broad, obtuſe, and of a deep, but pleaſing green; they are diſpoſed in Pairs along ſlender Stalks or Ribs, ten or twelve Pairs on each, with an odd one at the End; and theſe are again placed regularly upon the principal Rib, which is a Continuation of the Foot-ſtalk.

This is what the modern Writers call a Leaf duplicately pinnated.

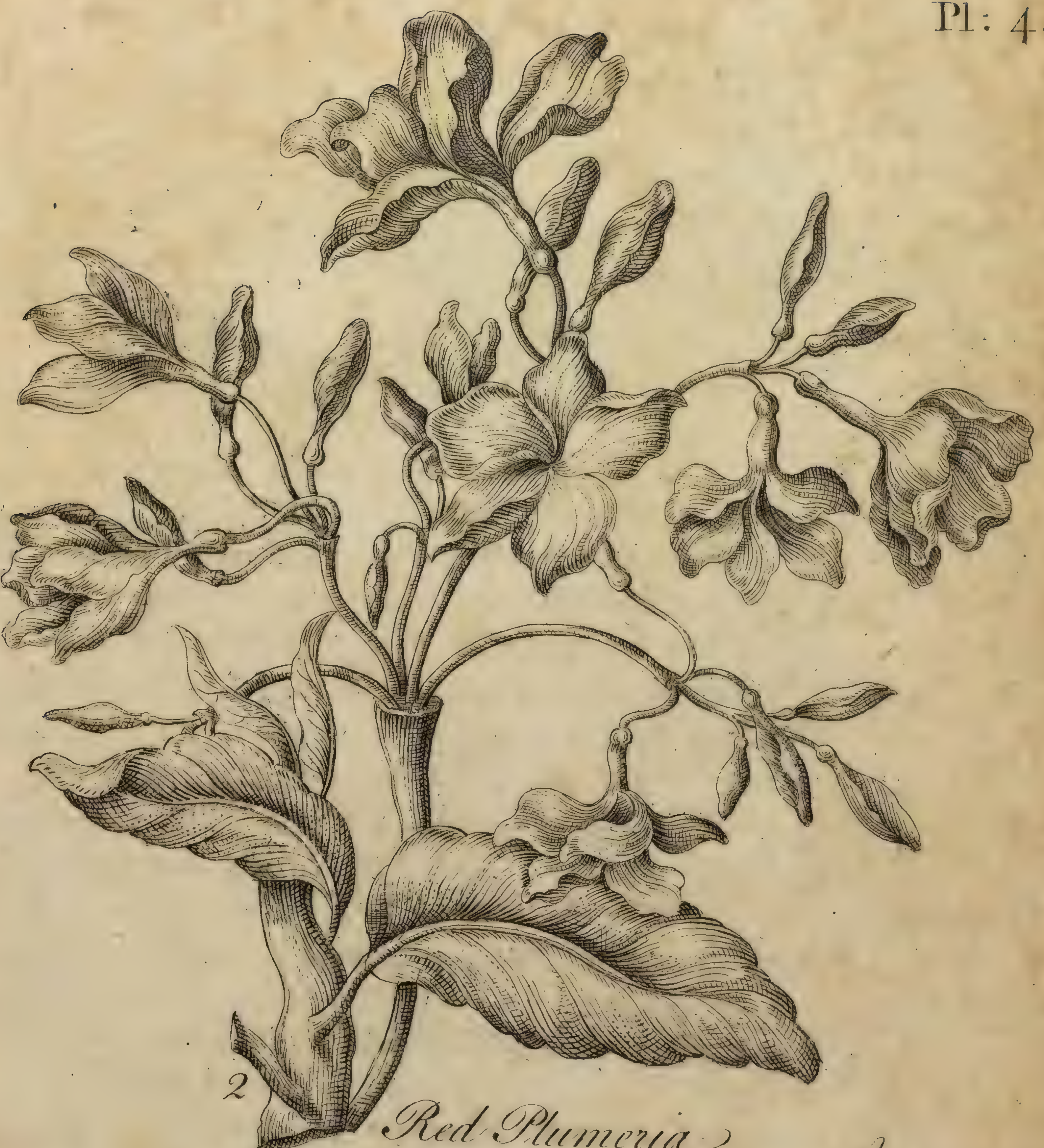
The Flowers grow in long Spikes at the Tops of the Stalks; and they have very great Beauty. They are very large, and their Colour is the moſt perfect Gold yellow, ſtained with a deeper yellow, or Orange Colour.

The Cup in which each ſtands is oblong and hollow; it is compoſed of numerous little Leaves, one of which is longer than the reſt, and bends downward.

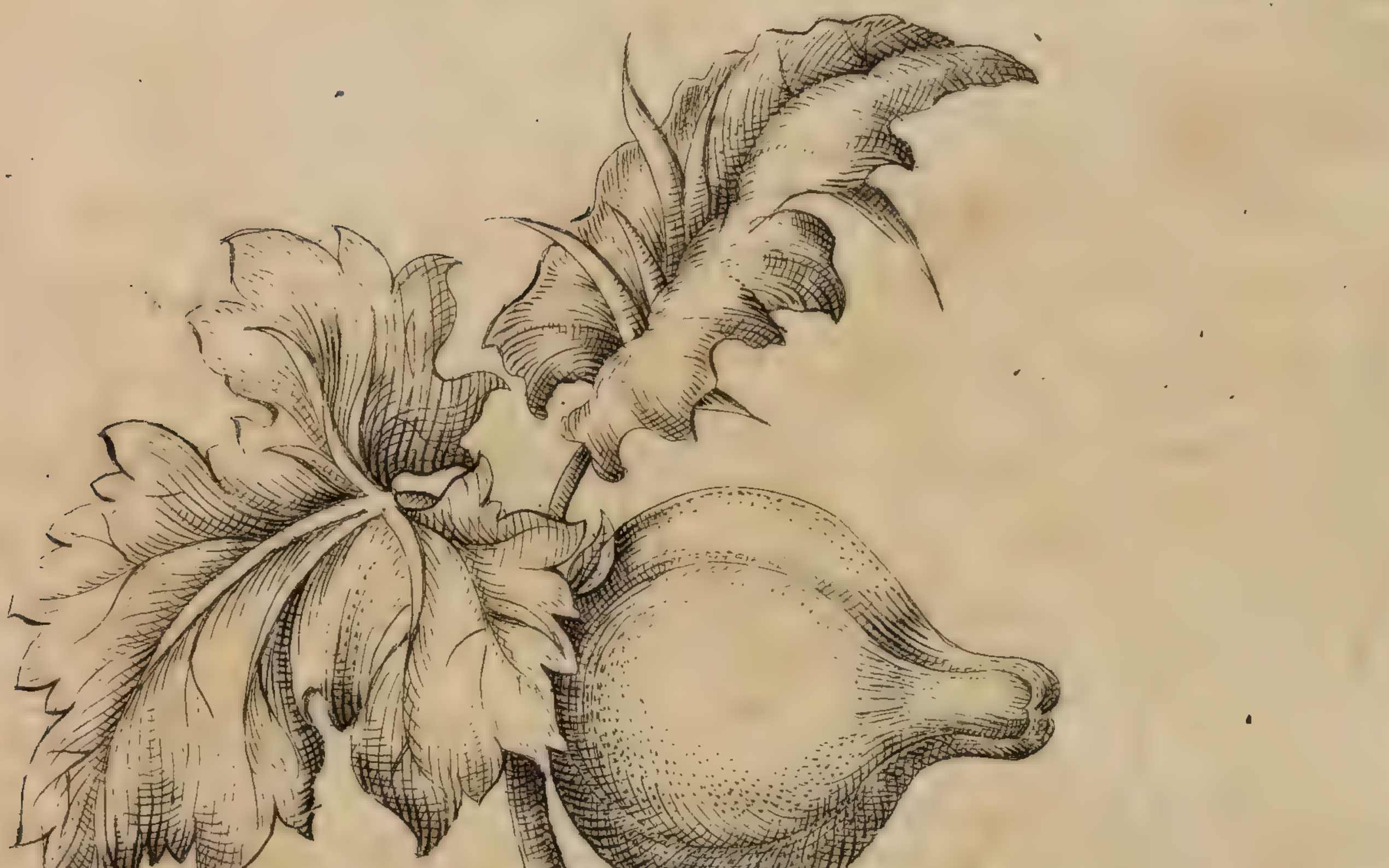
The Body of the Flower conſiſts of five large Petals. They are unlike in Form, four of them being rounded and equal; and the fifth, which is the loweſt, larger and indented at the Rim.



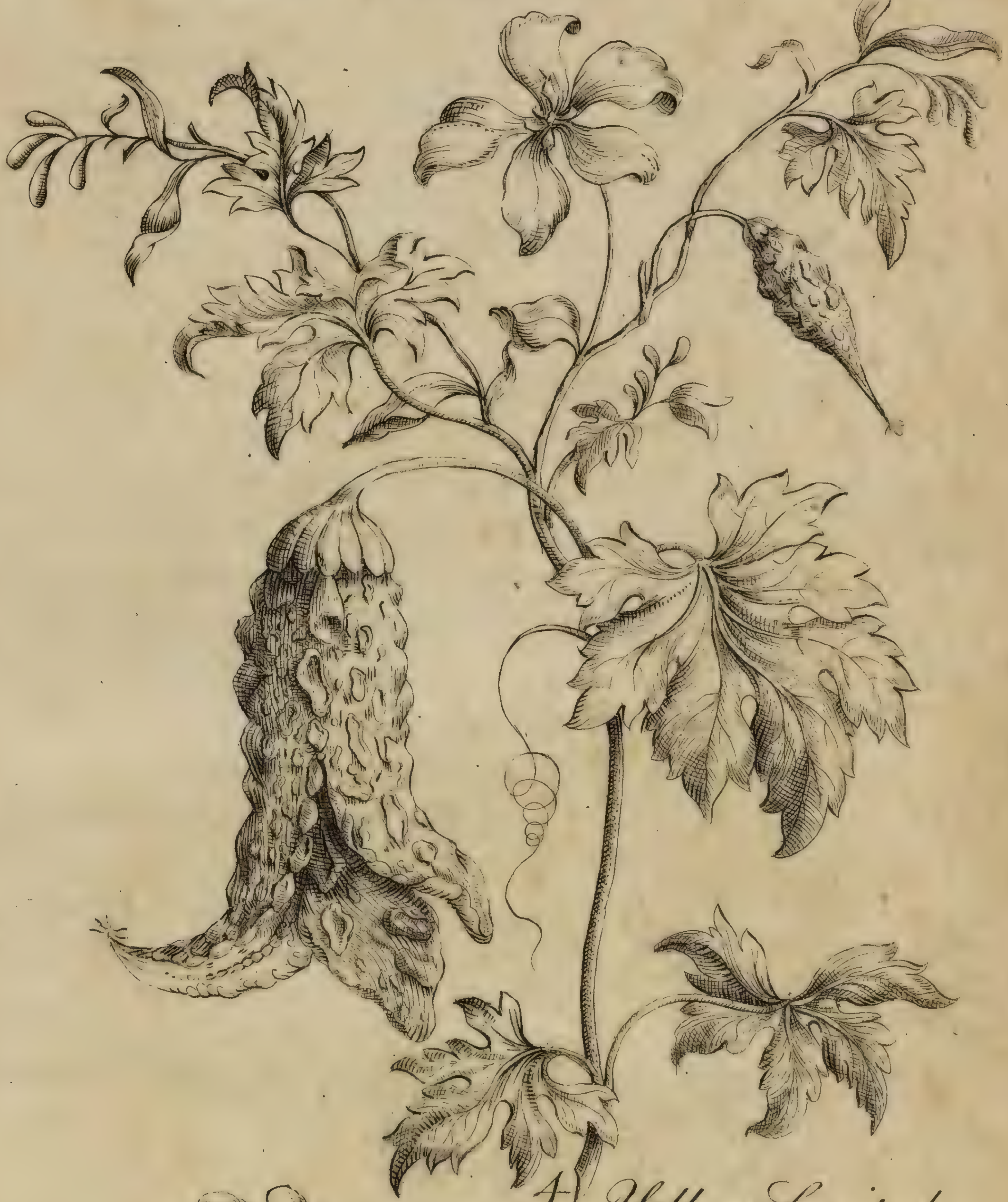
1 The True Acanthus



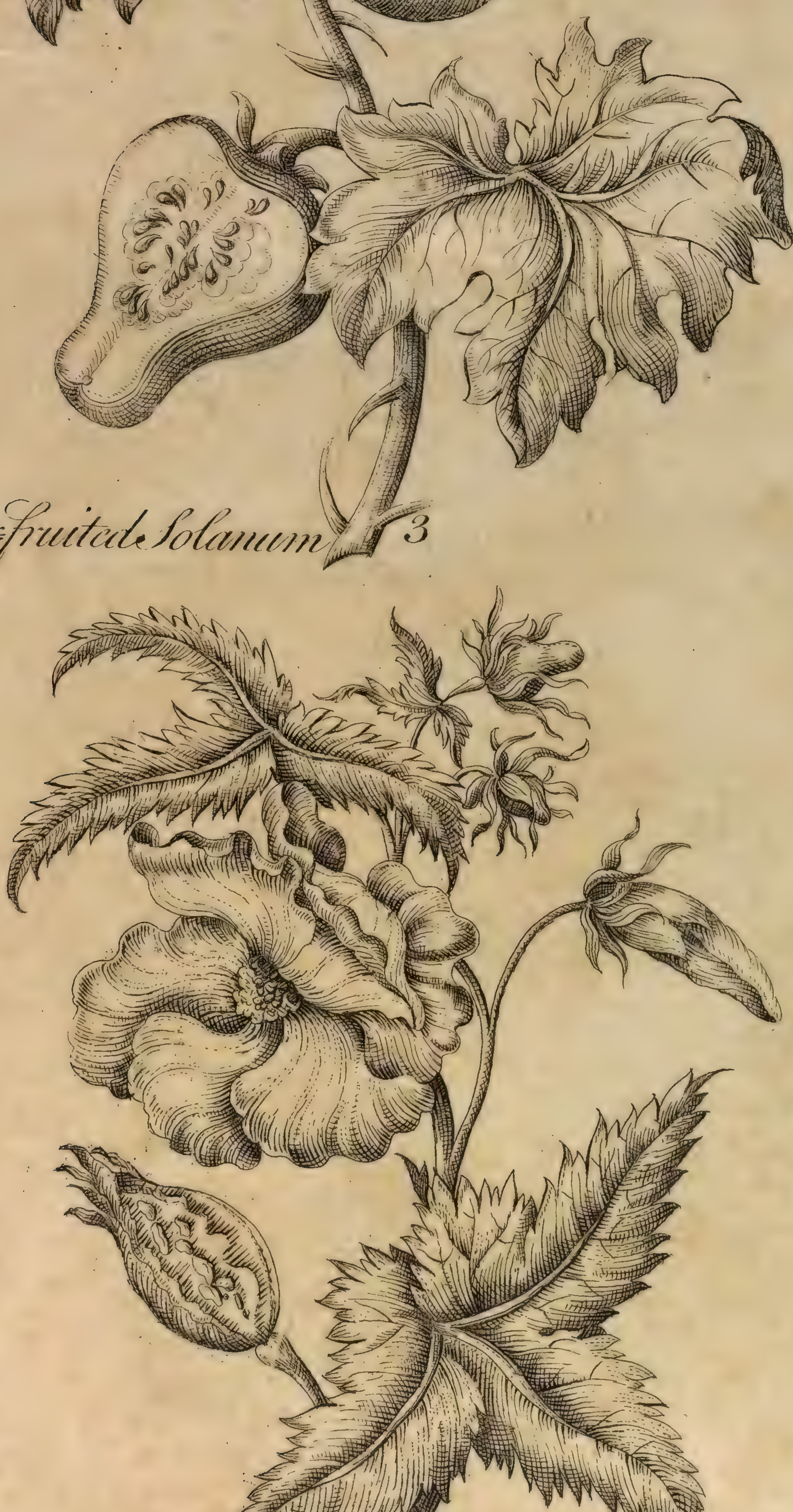
2 Red Plumeria



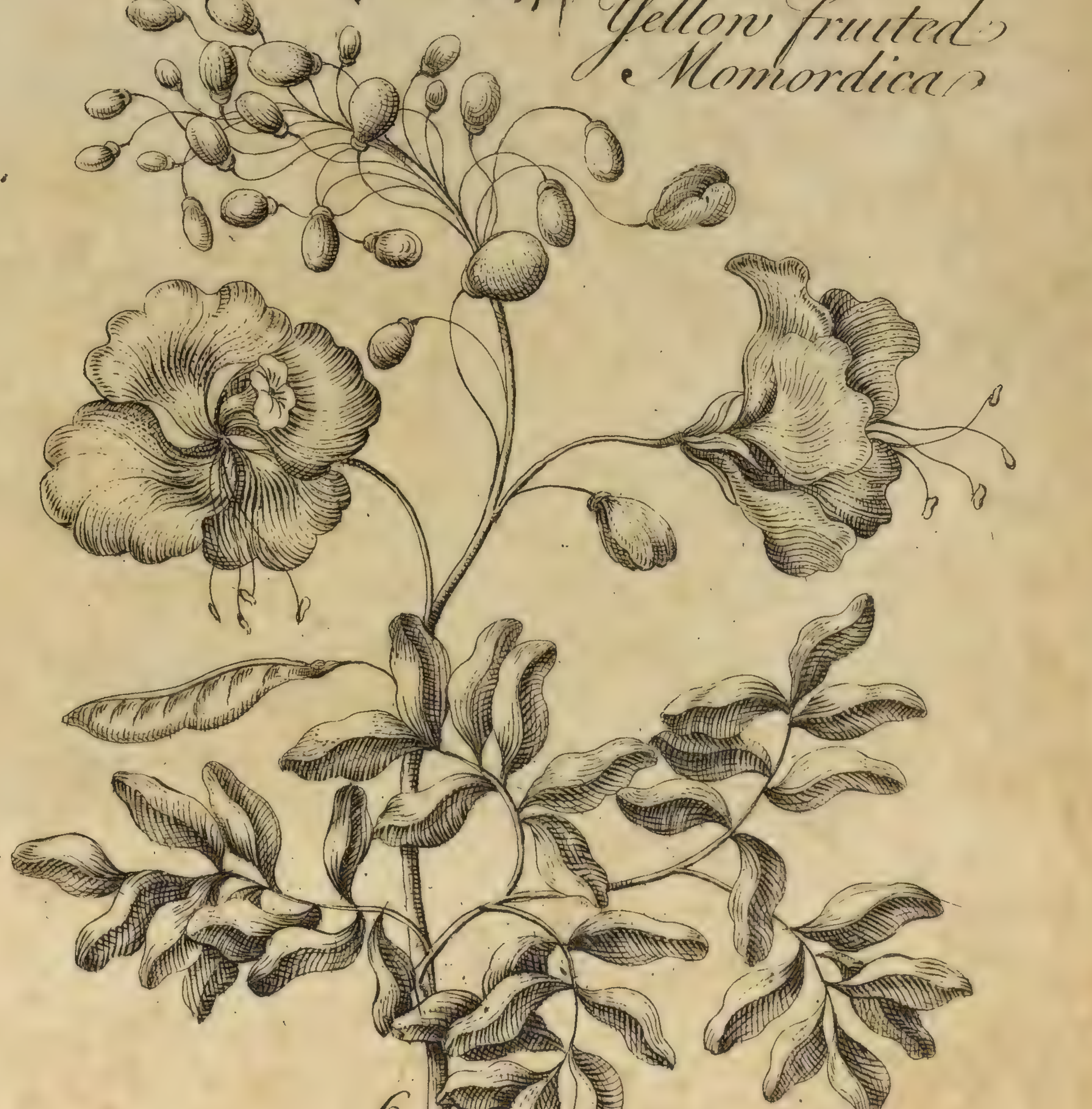
Pear-fruited Solanum 3



4 Yellow fruited Momordica



5 The Musk Hibiscus



6 Golden Poinciana

After the Flowers appears a flat Pod ribbed croſs-wiſe.

The Flower in this Species need not be opened to find the Number of the Filaments; for they ſtand out to a vaſt Length, and are extremely conſpicuous. Their Number is ten, and they are ſet in a crooked or ſtooping Poſture.

The Student has not yet in the Courſe of theſe Enquiries met with a Plant that had this Number of Filaments; but he will not be at a Loſs to what Part of the LINNÆAN Syſtem to refer this Genus.

The Filaments are equal and regular in their Growth.

This is the firſt Conſideration; and this ſhews him that he is to determine the Claſs from their Number.

LINNÆUS has arranged together thoſe Plants, which have in every Flower ten Threads, into his tenth Claſs. This is one of them.

He calls this Claſs *Decandria*: a Term formed like his other of two *Greek* Words, and ſignifying Plants that have in each Flower ten male Parts.

The Style riſes ſingle in the Middle of theſe Threads, and that determines the Plant to be of the firſt Section, that is, the *Monogynia*.

Culture of the POINCIANA.

Let good Seeds be obtained from *Barbadoes*, or any other of the warmer *American* Iſlands, for it is common in all; and let theſe early in Spring be ſown half an Inch deep upon a moderate hot Bed, covered five Inches deep with rich Mould.

Prepare a Mixture of equal Parts of Mould and rotted Wood, and add about an eighth Part of ſifted Coal Aſhes: work all this well together, and let it lie ready.

When the Plants are riſen to a little Strength, fill half a dozen Pots of a middling Size three Parts with this Mixture: open a ſmall Hole in the Centre of each, and into this put carefully one of the Plants from the hot Bed.

Give them a little Water, and then ſet the Pots into a hot Bed of Bark.

Shade them till they have taken Root; after which raiſe the Cover of the Bed to give them Air when the Temper of the Day will permit.

From this Time they muſt be carefully watched, and watered; often, but a little at a Time.

When they have grown to a good Strength and Height, as many Pots of a larger Size muſt be filled with the ſame mixed Soil as the firſt, and they muſt be carefully removed into theſe.

The Method is to put only a little of the Soil firſt into each large Pot; then to take out the Plant from the ſmaller, with all the Earth in a Lump.

The Fibres hanging round the Surface are then to be cut off, and the Lump ſet upright in the larger Pot.

There muſt be then more Earth piled round to fill it up.

The Plants being now removed into the Pots where they are to remain, muſt be watered and ſet again in the Bark Bed, ſhading them till they are thoroughly rooted, and then admitting the Air by Degrees.

When they have grown to the Height of the Frame they muſt be removed into the Stove. They are there to be placed in a freſh Bark Bed, and watered carefully a little at a Time, and often.

They are there to be treated as other Stove Plants; and with good Management they will produce Abundance of Flowers.

When the Buds for theſe appear, the Earth at the Top of the Pot ſhould be removed, and ſome freſh put in its Place; they muſt alſo be watered often: and thus the Flowers will grow to Perfection.

It is at this Time they require a particularly nice Management; otherwiſe the Buds, after a fair Promiſe, wither and come to nothing.

CHAP. II.

The Management of the Garden and Stove for the Midddle of September.

THE Seaſon of tranſplanting is now come for the Flower-Garden, in all its Products of the Perennial or of the Biennial Kinds not removed before.

We directed the Gardener to prepare his Borders laſt Week, by a careful digging; and they have now lain to receive the double Advantage of Air, Sun and Rain, and of a regular ſettling.

The Air and Sun have calcined the broken Clods thrown up from below; and the Dews have impregnated the whole with Vigour; this ſhort Fallow has ſerved to recruit the Ground, and the Plants may be removed hither from the Nurſery.

When

Sept.

When as many of theſe as will be required for the ſucceeding Years flowering are brought into the Garden, the next Care is the propagating thoſe already there.

The Polyanthus is a very beautiful Flower, when of a good Kind. It has now grown to a large Tuft in each Place where it has ſtood a Seaſon or two to flower.

The Roots having encreaſed, are to be parted; and the Plants ſet in a ſhady Place, and watered gently.

Some of the Catch-Flies and Campanulas require the ſame Treatment; and whatever other of the fibrous-rooted Plants there are, which have ſtood long enough in their Places to have formed large Tufts.

For every ſeparated Plant there muſt be opened a ſmall Hole; and let the Gardener ſee that the Earth be not cak'd, or preſſed hard at the Sides.

Let him cut off the Ends of all the Roots; and then ſetting the new Plant upright, carefully cloſe the Earth about it, covering it to a due Height, but leaving the Heart free and clear.

It is a Practice of ſome Gardeners, to defer the parting many of the fibrous-rooted Plants till Spring; but there is a great Advantage in doing this in Autumn: becauſe the new Plants will flower with tolerable Strength the next Year. When it is done in Spring they ſhould be removed into the Nurſery, and brought out into the Borders the Autumn following; for a good Gardener will never load theſe with any thing that is not to flower that Year.

The Floriſt has his Auriculas and his Carnations at this Time well ſettled, and in good Order in their Pots.

He muſt obſerve the Weather; and if much Rain fall, place them under Shelter.

The common erroneous Practice on this Occaſion, is to lay the Pots on one Side, that the Wet may not get at the Plants; and there are thoſe who write to inform the Gardener, that give him his Choice of either Practice, as if the two were equal.

We muſt guard him from ſuch Errors.

The Shoot for the next Year's Stalk is very early made; and it is the Courſe of Nature that it will direct its Top ſtrait upwards.

This it begins from the Moment the Pot is laid upon its Side; and when it is ſet upright again, the Shoot is to make another Turn to get a new Perpendicular.

This diſturbs the Courſe of the Juices, and hurts the future Flower.

The Seeds of many of the beſt Flowers, and other curious Plants, which require no additional Heat, but only a good Soil and Reſt, ſhould be ſown this Week.

Prepare for this Purpoſe the following Compoſt, or artificial Mould.

Mix equal Parts of rich Earth, taken from under the Turf in a good Paſture, and of the Bottom of a Wood Pile; add to theſe about one ſixth Part of fine Sand, and ſomewhat leſs of ſifted Coal Aſhes: mix this very well together, and fill with it ſome ſtrong ſquare Boxes of coarſe Boards, made about ten Inches deep.

Sept.

When the Surface is perfectly level, ſcatter on the Seeds, and cover them a third of an Inch with the ſame fine Soil.

This is the Method to have fine Auriculas: and the Polyanthus and ſeveral others, at the Gardener's Pleaſure may be ſown in the ſame Manner.

Let the careful Gardener, when he has planted his Borders and ſown his choice Seeds, go round the Ground, and obſerve what Plants have paſt their flowering.

Thoſe from which he intends to ſave Seeds he muſt mark for that Purpoſe, tying them up to Sticks; but let him make it a univerſal Rule, never to let any perennial Plant ripen its Seed, unleſs he wants it; for there is nothing weakens the Root ſo much.

The Stems of all theſe he muſt cut down cloſe to the Ground, and dig the Earth round about their Roots.

This breaks off the Ends of their Fibres, from which innumerable others ſhoot out immediately; and it prepares a fine well-broken Earth to receive them, and to afford them Nouriſhment.

It will alſo ſtrengthen them farther, if a ſmall Quantity of very fine Mould, well worked up with rotten Dung, be ſprinkled lightly over them, and ſettled by a regular and gentle watering.

The laſt Care in the common Earth for this Week will be the preparing for planting the Roots of Hyacinths, taken up when their Leaves were withered, and till this Time preſerved out of the Ground.

The *Dutch* excell us in theſe Flowers; and the Reaſon is partly that they raiſe them from Seeds, whereas we commonly propagate them by Off-ſets from the Root; and partly that they underſtand the proper Soil for them; of which our Gardeners and their Inſtructors are equally ignorant.

The *Dutch* Compoſt we have made a Subject of great Enquiry, and are poſſeſſed now of a Receipt for the Compoſition; which comes too well authenticated to bear a Doubt, and which perfectly agrees with Reaſon.

We have not had Opportunity of trying it ſince we received it; but from the Credit of our Correſpondent; and from the Nature of the Plant, and the Ingredients in the Compoſition, we may venture to aſſure the Gardener of its Succeſs. It is this.

Throw upon an open expos'd Spot of Ground one Load of common Mould: add to it a Load of dry Mud from the Bottom of ſtanding Water, and three quarters of a Load of Willow Earth: mix theſe together, and then add to them half a

Sept. Load of Sea-Sand, taken wet from the Shore; and half a Load of rotted Cow-Dung: ſtir up all theſe together, ſprinkle a little Water over the Surface, and lay them up in a Heap.

Break this Heap once in four Days, and in a Fortnight's Time it will be fit for Uſe.

This Quantity will make a moderate Bed for Hyacinths; and we ſhall give the Method of uſing it; but firſt it may be neceſſary to ſpeak of the Particulars: When Receipts are brought from Abroad, they are often of little Uſe, unleſs accommodated to the Country where they are to be uſed.

The Gardener muſt know two Things; the firſt what he may occaſionally vary, and the other wherein he muſt be ſtrictly punctual to the Receipt.

Our Floriſts know the worth of Willow Earth; but this is not a Country where it can be got by Loads. With us a Peck or two of this, from the hollow Stump of a decay'd Tree, is a Treaſure; but in *Holland*, where Willows are planted every where; and, from the Rottenneſs of the Soil, decay ſoon; it is abundant.

All that is meant by this Ingredient is a light Earth, produced partly from rotted Wood.

We have often recommended the Earth from the Bottom of an old Wood Pile: this may be had in Plenty, and it is of the ſame Nature with Willow Earth, and may be uſed in its Place.

The Gardener may take this Liberty with the Materials: but there is another he muſt not take, which yet would appear, to thoſe unus'd to the Doctrine of Manures, leſs eſſential.

If he be ſituated in an inland Place, he will be led to uſe Pit-Sand inſtead of Sea-Sand: but this he muſt not do. Pit-Sand is uſually foul on the Surface, every Grain of it; and this Foulneſs is from Clay.

Clay is deſtructive of the Hyacinth Root, therefore this muſt not be us'd. If there be a River near, let him take the Sand from its Bottom, where he will find it clean. If there be no River in the Neighbourhood, let him chuſe large coarſe Pit-Sand, and putting it into a Tub, pump upon it a great deal of Water, ſtirring it with a Birch-broom, and repeating the Waſhing till the Water runs off clear. The Sand will then be clean: but it will want its Saltneſs. This is a material Article: Salt properly us'd is a very rich Manure, and it agrees particularly well with the Hyacinth.

To give this Addition, he muſt diſſolve common Salt in the Water he ſprinkles over the Ingredients; and, for this Quantity, a Pound and a Quarter of Salt will be ſufficient. Sept.

Having thus made up his Hill, we will ſuppoſe in the Beginning of the preſent Week, it will be ready by the End of the next for Uſe; and we ſhall, in our ſucceeding Number, tell him how to diſpoſe it.

All we ſhall add on this Head, is, that the Mud of Ponds and Ditches is common enough here, but is neglected: it is a Kind of Virgin Earth, and it exceeds all other Mould in Fineneſs.

The Week's Buſineſs in the common Ground, reſpecting hardy Plants, being thus compleated, let him turn his Eye upon thoſe Exotics which he has placed for the Summer out of Doors. Summer is over; the Seaſon now approaches when the cold Nights will be injurious to them; and they muſt be defended againſt the Hurt.

This is to be done by taking them into the Green-houſe.

As they are brought in let them be carefully examined. Let all dead Leaves be taken off; for the Vapour from them is infectious when confined within Doors. When they are thus clear'd of decay'd Parts, the Earth ſhould be carefully dug up about their Roots, with a ſmall ſtrong Trowel; and a ſlight Covering of freſh Mould put over them. They are then to be plac'd handſomely on the Benches and on the Floor; and that Care is over.

There are a peculiar Kind of Plants which belong to this Conſideration, and require a particular Direction on this Head; theſe are the CEREUS's, and that large Claſs known by the common Name of ſucculent Plants.

None receive ſo much Benefit from the free Air as theſe; therefore they ſhould be ſuffer'd to remain in it as long as they can with Safety. This is to be determin'd by the Weather.

They cannot bear Wet; and much leſs Froſts: therefore the Seaſon muſt guide the Gardener when to take them in; not the particular Days of the Month.

They may ſometimes be left out till the Beginning of *October*, and it is greatly to their Advantage; but if the Days be very wet, or the Nights froſty, they muſt be taken in ſooner.

SECT. II.

The Buſineſs of the SEMINARY, for the Middle of September.

THIS will, for the preſent Week, be compriz'd in a very few Words. Let the Gardener break and turn the Ground he has been preparing for receiving his Trees and Shrubs yet to be planted: let him water thoſe already ſett, and clear away Weeds from ſuch as are to remain in their Places. This done, he may quit this Piece for the preſent, to attend where he is call'd more needfully.

SECTION III.

POMONA, or the FRUIT-GARDEN.

WE ſhall follow in this Part the ſame Courſe as in the others; mentioning what Fruits are in their Perfection at this Time, and what Care and Culture the Trees require that bear them. But before we enter on this Article, we muſt caution the candid Reader to charge us with no Faults but our own; for there will here be the Appearance of ſome in us, which truly belong to others.

Nothing is ſo common as a Catalogue of Fruit, but nothing is ſo imperfectly or erroneouſly treated by moſt who have attempted it.

Gardeners Kalenders have been given by the firſt Writers on theſe Subjects in our Language; and theſe have been tranſcrib'd from one of them into another down to the lateſt: every new Author adding ſomething; and the very beſt not perceiving that they record, under a new Name over again, the ſame Fruit they have mentioned from their original Author under another.

This is the Cauſe why Monthly Catalogues of Fruit are ſo enlarged of late, and ſo confus'd. The Authors hear a Parcel of Names us'd, and they ſet down all they hear; not perceiving that often two or three of them denote but one Kind; becauſe that one is not known to them diſtinctly. Indeed, the Variations in ſome Inſtances are themſelves ſo ſlight, or ſo uncertain, that there is ſome Excuſe: for theſe are not Diſtinctions of Species, which are permanent and immutable; but Varieties from the Accidents of Culture.

What can be done in this we ſhall attempt. The Path marked out by Reaſon is open and evident. Liſts of Names are uſeleſs, becauſe the Reader may apply them, like the Writer, to one Fruit or another.

We propoſe Information; and we ſhall, in this Caſe, attempt it, by adding to the Name of every Fruit the Deſcription of its peculiar Characters. This will convey Inſtruction, at the ſame Time it reminds the Reader of the Products of the Seaſon; and we flatter ourſelves will place ſome Merit in a Part, in all other Works of this Kind, uſeleſs.

The early Peaches are now gone. The NECTARINE, TROY, and CAPUCHINE, and the WHITE MAGDALEN and MONTAUBON, are either rotted or ill-taſted.

The Middle Peaches are juſt in full Seaſon. The MINION has been ripe ſome Time; but it continues as excellent as at firſt: this is a large Peach, with a ſmall round Stone; 'tis red to the Sun, and whitiſh next the Wall. The Juice is rich and high-flavour'd; and it is bloody round the Stone.

The ROYAL GEORGE is now full ripe, and is a very fine Peach: it is round, and has no Point, as ſome, that reſemble it, have at the Tip. There runs a Cleft down one Side, and it is flat at the Stalk. It is downy, and the Ground-Colour is white: where it is open to the Sun it is of a Blood-red; and where it faces the Wall it is uſually ſpotted. The Fleſh of it is very well taſted, and melting; and it is of a bright red, not ſo deep as the former, near the Stone.

The NOBLESSE is another Peach now in its Perfection. It is roundiſh, and of a pale green Colour, but of a deep Purple on the ſunny Side. The Fleſh alſo is greeniſh, and very well taſted; and it comes clean and free from the Stone.

The PORTUGAL PEACH is alſo now in its Perfection. This is one of the large round Kinds: its

Colour is a yellowiſh White next the Wall, and ſcarlet toward the Sun; and the whole Fruit is covered with a thick Down. The Pulp is firm, not melting as the former, but the Taſte is very fine: it is red about the Stone, and ſticks to it very cloſe.

Of Nectarines there are alſo ſeveral Kinds now in Perfection. The *Roman* Nectarine has been long famous, and it is worthy to continue ſo. It is now in its beſt Condition. It is large and round: yellow toward the Wall, purple on the ſunny Side, full of a rich red Juice, and very red near the Stone. The Pulp ſticks to the Stone, and when the Fruit is ripe, the Skin ſhrivels.

TEMPLE's Nectarine is paler: its red Side is faint, and the Pulp is leſs ſtain'd. Its Shape is longiſh, and it is well-taſted.

The *Newington* Nectarine is alſo now ripe. It is purple all over, or nearly ſo, and is round and large. The Pulp is very melting, it is full of a rich Juice, and ſticks to the Stone.

Theſe are the Kinds of the two principal Fruits the preſent Week preſents from a good Garden.

The beſt Grape of this Time is the ARBOIS, or, as ſome call it, the *French Sweet-water*. The Cluſters are large, the Grapes of a moderate Size, and round; and their Colour is green whenever ſo ripe.

The Leaves of this Kind of Vine are white, and duſty underneath.

The BLACK FRONTIGNAC is alſo in Perfection. It is a long-ſhap'd Grape, and the Bunches alſo are long and large, and turn brown at this Seaſon.

Of the Plumb there is now the BLUE PERDRIGON. Its Colour is purple, and it is covered with a thick rich Duſt, which is of a paler blue. It is one of the ſmaller Plumbs, and is round, but ſomewhat pointed toward the Stalk. Its Pulp is firm, of a pale yellow, finely taſted, and eaſily parting from the Stone.

The WHITE PERDRIGON is of the ſame Shape, but larger. Its Skin is yellow, but it is thick duſted with a white mealy Powder. The Pulp is firm, and its Colour is a pale green. It is very well taſted, and parts freely from the Stone.

The GREEN GAGE is another Plumb of this Seaſon. It is a middle-ſiz'd Kind; and is round, and has a ſmall Furrow at the Side. Its natural Colour is an Olive-green; and the ſunny Side gets a Tinge of purple, and is covered with a bluiſh Powder.

The Pulp is of a ſuperior Flavour to any other; it is full of Juice, and it ſticks to the Stone.

Many will find by this Deſcription they have eat other Plumbs under this Name. The Excellence of the GAGE Plumb has made cunning Nurſery-men call many others by its Title, and ignorant Gardeners have believ'd them.

Of Pears the JARGONELLE is in good Seaſon. It is a middle-ſiz'd longiſh Pear with a large Eye, and is ſmall at the Stalk. The ſunny Side is of a brown red, and the other yellow.

We ſhall cloſe the Fruit Account with the VERNISINGUE FIG, now ripe; and, for thoſe who love that kind of Fruit, excellent. It is a round brown Fig, pointed at the Stalk, and the Skin cracks when it is ripe. The Pulp is very rich.

Theſe are the Fruits to be expected now; and there is not much requir'd at this Time but the gathering them. When they are off the Trees, we ſhall direct the Gardener how to prepare for his future Stores.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Products of the Kitchen-Garden now in Seaſon.

THIS uſeful Quarter affords at the preſent Time, beſide the common Products, the Roots of Salſafie and Scorzonera, which are very wholeſome as well as pleaſant. There are alſo many good Melons. The ſmall green Melon is now in its greateſt Excellence. The Rind of this is ſmooth, and the Fleſh is green and full of a rich Juice.

The *Spaniſh* Melon is alſo in its Perfection. This is white on the Outſide, and but lightly wrinkled, and the Fleſh is red.

The *Dutch* Parſley-Roots are now in their full Flavour; and the Tomato Fruit is ripe. Few eat this; but it is agreeable in Soups. Thoſe who are us'd to eat with the *Portugueſe Jews* know the Value of it. Chardoons are alſo in Seaſon; and, if well manag'd, will be now white, large, and tender.

CHAP.

CHAP. II.

Of the Care and Management of the Ground.

THE Care of the Gardener for future Crops here, is to be continued with the greateſt Diligence.

We nam'd Chardoons as now in Seaſon; and his Regard on this Head muſt be to raiſe a Crop to ſucceed that now in Uſe. If the Ground have been tolerably manag'd, there will be a Bed of this uſeful Plant two or three Months old from its Tranſplantation, and now ready for Earthing.

This is a Piece of Gardening little underſtood, and conſequently ill practis'd. The Weight and Temper of the Earth about the Stalks, are the two Articles on which all depends: but this Temper or Degree of Moiſture can never be duly obtain'd without the Fineneſs of the Soil; nor can there be due Weight, unleſs it have ſome Firmneſs.

The proper Soil for Earthing up Chardoons, is a Mixture of ten Buſhels of Garden-Mould, one Buſhel of large Sand, and three Pecks of burnt or calcin'd Clay. The Clay for this Purpoſe, is to be burnt gently, till it crumbles away. It is a Practice well known in Huſbandry; and ſhould, for this Uſe, be brought into Gardens.

This Mixture ſhould lie together a Week, turning it frequently; and then it muſt be brought to the Ground.

The Leaves of the Chardoons muſt be ty'd up with a Rope of Baſs, or old Matting. This Compoſt muſt then be laid up to them, a Foot or more in Height; and afterwards rais'd higher occaſionally. Care muſt be taken not to bury the Hearts of the Plants; and the Earth muſt be dry when it is put to them. It will cling cloſe without clogging them, and will bring them to perfect Tenderneſs and a fine Flavour. If Chardoons were rais'd with this Judgment, there would be more Regard ſhewn to them than is at preſent.

If there be any wet Days this Week, let the Gardener here continue his Work of Tranſplanting.

If the Garden have been tolerably manag'd, there will be Colewort Plants of about two Months Growth; Cabbage-Plants of ſix Weeks, and Collyflowers of about a Month. Theſe will all require to be remov'd, but in a different Manner, and with different Intentions.

The Coleworts may be tranſplanted where they are to ſtand till Spring; and the Ground ſhould be well dug for them, or they will make little Progreſs during Winter.

The Cabbage-Plants ſhould be ſet out at Diſtances into a good Piece of mellow Ground, where they are to ſtand till they are remov'd to the Places in which they are to remain. Theſe will bear Expoſure; but it is otherwiſe with the Collyflower Plants; they are of a tenderer Nature, and muſt be manag'd carefully.

Some plant them out upon decay'd Hot-Beds that had ſerv'd for raiſing Cucumbers and Melons; and we are not to wonder Gardeners content themſelves with doing this, when there are Writers who recommend it. The bringing theſe Plants forward at this Seaſon, is a very important Article: but it cannot be well done without a better Heat than is to be obtain'd from ſuch exhauſted Materials.

For this Purpoſe, let a freſh Hot-Bed be made with good Dung, that has lain to evaporate the moſt violent Part of its Heat: and let it be covered nine Inches deep with the fineſt Mould.

Upon this draw Lines four Inches aſunder, and at every three Inches make an Opening; into each of theſe Openings put one Plant; and ſet it carefully upright, with the Mould clos'd nicely to its Stalk. Give a gentle Watering to the whole Bed, and repeat it as Occaſion requires.

In this Bed they are to remain three Weeks; and we ſhall then direct the Gardener in what Manner to make the beſt Uſe of the Advantage he has gain'd, by planting them out into their Beds, where they can be defended by Glaſſes, and ſtand the Winter.

The Rains that cauſe the tranſplanted uſeful Herbage to grow ſo kindly, have the ſame Effect upon wild Nature; and bring up Weeds as faſt. The Gardener is to be aware of this, and to clear them off as they riſe. This is beſt done by Hand among the young Crops, and by the Hoe among thoſe which are of more ſtanding.

In either Caſe the great Advantage is to deſtroy them as they riſe. Seedlings, whether of the uſeful or wild Herbs, exhauſt the Earth but little; but the larger Growth abſorb that Nouriſhment which has been prepar'd, with all the Gardener's Care, for the Nouriſhment of his Crop.

They muſt never be ſuffer'd to ripen their Seeds, becauſe they will ſo lay the Foundation for a ſucceeding Crop; but that is not all the Care of the Gardener: for Nature ſupplies thoſe Seeds ſo abundantly, that they will never fail to riſe where better Things are planted, the ſame good Earth inviting them.

With this Care of cleaning every Part from them, may end the Labour of the preſent Week.

E D E N:

A
COMPLEAT BODY of GARDENING.

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NUMBER V.

For the Laſt Week in *SEPTEMBER.*

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SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP I.

Flowers and Curious Plants now in their Perfection.

1. CEYLON PANCRATIUM.

Sept. Pl. V. Fig. 1. THIS is a Plant of equal Singularity and Beauty; and if theſe ſhould recommend it to the Curious too weakly, they would yet be influenced to receive it from the Scent of the Flower, which is in the higheſt Degree pleaſing.

It is called the *Ceylon Narciſſus*, and by the common Writers *Narciſſus Ceylonicus flore hexagono*. Its *Indian* Name is *Catulli Pola*.

It is properly a Species of *Pancratium*, and is called by LINNÆUS, *Pancratium ſpatha uniflora petalis reflectis: Pancratium*, with one Flower, and with the Petals turned back.

Its Height is about ten Inches, and the Stalk ſuſtains a ſingle Flower.

The Root is a Bulb, of an oval Form and of a pale brown Colour.

The Leaves are long, narrow, and of a light green. They reſemble thoſe of the Narciſſus, but they are ſhorter.

The Stalk riſes at the Side of the Cluſter of them, is green, round, thick, and juicy.

It is naked to the Top, where there at firſt appears a membranaceous Caſe, ſerving as a Cup to the ſucceeding Flower. This is what LINNÆUS calls the *Spatha*. Sept.

From this burſts afterwards one Flower.

It is large, and of a ſnowy Whiteneſs; of an hexagonal Figure, and of a very fragrant Scent.

It conſiſts of two Parts; the Petals, and what Authors have called the Cup: but this is a very vague and improper Term. The *Spatha*, or membranaceous Caſe, growing at the Top of the Stalk, and ſurrounding the Baſe of the Flower, ſerves as the Cup, and is properly ſuch to this and many other Kinds.

Within this riſe the Petals; and within them, where in the Courſe of Nature nothing is expected but the Filaments and Style, there is a large hollow Part of the like Subſtance with the Petals.

This, from its Form, theſe Authors called the Cup; but our Student, from what he has been already informed, will not be at a Loſs to know by what Name it is properly to be expreſſed.

We have told him, that when in the Body of a Flower there ſtands any ſingular Part diſtinct

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from the Petals, and from the Filaments and Style, that Part is the Nectarium of the Flower.

This is the Caſe in the preſent Inſtance.

This ſingular Part is the Nectarium of this, and all other Flowers of the ſame Structure.

Having thus explained the Nature of the ſeveral Parts, the Structure of the whole will be eaſily deſcribed.

The Nectarium occupies the Centre of the Flower, and is its moſt conſpicuous Part. This is very large, hollow, and ſpreading. It is tubular at the Bottom, and thence expands in the Manner of a Funnel, and is divided at the Edge into twelve Segments.

The Petals ſurround this, and are inſerted on its tubular Part a little above the Baſe. They are ſix in Number, and they are long, narrow, of the ſame ſnowy White with it, and turned back at the Ends.

The Filaments are ſix in Number, and their Place of Origin is particular.

They riſe not from the Centre of the Flower, but from the Edge of the Nectarium between the Segments.

In the Centre riſes the Style, which is ſingle and ſtrait. The Seed-Veſſel is roundiſh, but marked with three Ridges, and contains numerous Seeds.

The Student will know, that as the Filaments grow regularly in Diſpoſition and Proportion, their Number is to eſtabliſh the Character of the Claſs to which this Plant belongs.

It is one of the ſixth Claſs of LINNÆUS, the *Hexandria*; and as the Style is ſingle, it is of the firſt Section, the *Monogynia*.

The Plant is a Native of the Eaſt, where it grows wild in ſandy Places.

Its Culture is indicated by this ſhort Hiſtory.

It muſt have a dry, light Soil, to imitate its natural Earth; and Heat, to mimick the Sun's Power in its proper Climate.

It might be produced from Seeds, which it yields in Abundance; but this would be a tedious Way, for the Seedlings are ſeveral Years before they flower.

The beſt Method, therefore, is by Off-ſets which are produced in Abundance, and which muſt be taken off, otherwiſe they hurt the flowering of the main Root.

Theſe Off-ſets, or the entire Roots received from the *Indies*, are to be planted with Care in Pots in a proper Compoſt: and the beſt for the Purpoſe is this.

Take of fine Earth, got from under the Turf in a dry, rich Paſture, and freed from all Fragments of Roots, one Buſhel; of Earth from the Bottom of a Wood-Pile, half a Buſhel; and of clean Sand a Peck and half. Work all this well together, and let it lie expoſed to the Air, Sun, and Dews a Fortnight.

Then put into ſome middle-ſiz'd Pots as much of this Compoſt as will three Parts fill them.

Upon this place the Roots, and then fill up the Pots, carefully ſettling the Earth about them.

This, with the common Culture of tender Exotic Plants, will make them flower in very great Perfection.

They will require ſome Water at Times; but if that be given careleſsly, it will be very injurious.

2. PURPLE HÆMANTHUS.

Pl. V. Fig. 2.

This is another Flower of extream Beauty, as well as Singularity; and every Way worth Notice.

It is of the bulbous Kind like the former, and has the ſame Advantage of flowering at this Seaſon; moſt of this Kind diſplaying their Beauties in the Spring.

In *Engliſh* it is called the *Blood Flower*, the *African Tulip*, and the *Bloody Lilly*.

The *Latin* Writers in general name it *Hæmanthus*, and *Hæmanthus Africanus*.

LINNÆUS calls it, *Hæmanthus foliis linguæ-formibus planis*: *Hæmanthus* with plain and Tongue-like Leaves.

It has been thus ſuppoſed a Kind of Tulip by ſome; a Narciſſus by others; and by a third Set referred to the Lillies; but all very improperly, as will be ſeen by the Structure of the Flower, which is diſtinct from theſe and from all other Kinds.

The Root is bulbous and vaſt; it equals a Child's Head. Its Colour is white, and it is compoſed of thick and numerous Coats. From its Baſe run Fibres, whoſe Groſſneſs anſwers to the Bigneſs of the Root. They are equal to Crow Quills.

The Stalk riſes to the Height of twenty Inches, and is extreamly ſingular and beautiful: it is very thick, ſomewhat flatted, of a pale green, and ſpotted and clouded all over with white and purple, ſo that it reſembles a Piece of poliſhed Porphyry.

The Head whence the Flower is to burſt, appears upon this at its firſt riſing; and is then of the Bigneſs of a large Wallnut. Its Colour is brown, and its Shape ſomewhat reſembles that of the Stalk, for it is a little flatted.

At length when the Plant has its due Height, this burſts and diſcloſes its Beauties; it appears, and it is called, a ſingle Flower; but we muſt teach our Student to underſtand the Parts of Plants more accurately.

When this Head opens there appear ſix Leaves. Theſe being cloſed together formed the Head, and now open they are underſtood by common Writers to be Petals of a Flower. They are very large, and throughout of a Blood-red, inſide and outſide equally; for, the brown Tinge on the outer Surface ripens into this red, by the Time of their ſeparating and expanding. This being underſtood to be the Flower, the internal Part was ſuppoſed to be filled with Filaments and their Buttons, and the other Organs of Fructification: but the true Structure of the Flower is this.

Theſe ſix Leaves which are the Cup ſurround and defend the proper Flowers: and when they open they ſhew theſe, which are numerous, and diſpoſed in a Kind of Umbell.

Theſe ſmall ones are the proper Flowers, and they are about thirty in Number on one Stalk.

Each is formed of a ſingle Petal, divided into ſix Parts at the Edge. Theſe are long and narrow; and the tubular Portion at the Baſe is angulated and ſhort.

In the Centre of each of theſe Flowers riſe the Filaments, and in the Midſt of them the Style.

This ſhews theſe ſeparate Parts are properly the Flowers, and the large purple Body but the Cup; for 'tis in the Centre of the Flower theſe always grow.

The Filaments are ſix in each: they are inſerted in the tubular Part of the Flower, and they have oblong incumbent Buttons.

The Style is a plain Thread of the ſame Length. The Filaments are white, and their Buttons are of a Gold Yellow; and the Body of theſe ſmaller Flowers is ſcarlet.

The Place this Plant has in the LINNÆAN Syſtem is eaſily ſeen: it is, as the former one, of the firſt Section of the ſixth Claſs, of the *Hexandria Monogynia*; Plants in whoſe Flower there are ſix ſeparate Filaments and a ſingle Style.

The Leaves are in the Courſe of Nature now to be deſcribed; for they appear not with the firſt Shoot of the Stalk, but about the Time of the Flowers opening. Theſe are in Number only two; they riſe at one Side of the Stalk, and they are large and of a beautiful greeen. They are broad, oblong, and rounded at the Ends; and ſpread themſelves oppoſite upon the Surface.

It is a Native of *Africa*, and requires with us ſome Care and Management: but its Singularity and extream Beauty very well deſerve it.

The Roots are to be obtained from the *Cape of Good Hope*, and they will eaſily be brought in Perfection. They will alſo freely live with us and ſhoot their Leaves, but without a juſt Care they will not flower. The Time of their flowering is the very End of *September*: but this will appear leſs ſtrange to thoſe who conſider that it anſwers to *April* at the *Cape*, the natural Time of ſuch Plants flowering.

It ſeemed ſomeTime a Diſgrace to our Gardeners, that a Plant, which FERRARIUS deſcribed as flowering in the *Barbarini* Garden, and COLUMNA in that of Prince CÆSIUS, ſhould mock their Care and Aſſiduity; but about ſixty Years ago they brought it to flower in *Holland*, and after that the Culture became more underſtood here.

However, till there are many who have been poſſeſſed of good Roots ſeveral Years, which never have flowered: We ſhall therefore lay down the true Management of them, and will venture to aſſure the Poſſeſſor, that under this Care they will rarely fail.

The Culture of the PURPLE HÆMANTHUS.

The firſt Care is to make a proper Compoſt, or artificial Soil.

The general Practice places theſe Roots in too rich an Earth, and this prevents their flowering.

The Author of the Gardeners Dictionary orders Dung in the Soil wherein they are planted; but Experience ſhews that to be prejudicial.

Juſtice to the Publick compels us to declare, the Errors in that Book occaſioned our undertaking this: Errors, in which its Author has ſo confirmed himſelf by repeated Practice, that all Improvements ſeem to him Miſtakes.

Let there be mixed together a Buſhel of dry Earth, taken from under the Turf in a good Paſture, half a Buſhel of Sand, and a Peck and a half of Earth from an old Wood-Pile. Add to theſe half a Peck of clean ſifted Coal Aſhes: Stir and mix all theſe well together, and let them lie a Month before they are uſed.

Then about the Middle of *June* prepare two or three Pots. Carefully lay in as much of the Compoſt as will fill each Pot two thirds. Shake it down, and upon this place in each Pot one Root. Lay in more of the Earth carefully round, and cover it about a quarter of an Inch above the Top.

When the Roots are planted, give a gentle Watering, and ſet the Pots in a ſhady ſheltered Place.

Once in a Fortnight give them a little Water; and thus let them ſtand two Months.

Then remove them into a warmer Place, but ſtill in the open Air; and give them a little Water once in ten Days.

Let them ſtand thus till the Middle of *September*, and then bring them into the Stove. Give them a gentle Watering when firſt put in, and repeat it afterwards every Day.

This frequent Watering, and the new Heat will make them ſhoot at once; and the ſecond Year they will flower very ſtrong.

The Earth ſhould be taken off from about the upper Part of the Root, and freſh of the ſame Kind put in two or three Times a Year; and Care muſt be taken, neither to give them too much Water, nor to let them want it.

This Way they may be certainly and ſucceſsfully brought to flower, whether the Roots have been obtained from Friends here, or from the Cape, their natural Place of Growth.

The beautiful Flower called the *Guinea Orchis*, or *Satyrium e Guinea*, is of this Genus, and explains the Structure of the Flower moſt plainly; for in that the Leaves of the Cup are green, and the ſeparate Flowers more elevated and diſtinct.

This will be deſcribed and figured hereafter.

3. AZORIAN JASMINE.

Pl. V. Fig. 3. This is a very elegant Shrub, and worthy a Place in every Collection, for the Regularity and Beauty of its Leaf, and the Fragrance of its Bloom.

We ſee it in general bearing only a few ſtraggling Flowers; but that is not the Nature of the Plant: it ariſes from its ill underſtood Culture. We ſhall from Experience direct the Gardener how to make it ſhew to much more Advantage.

It is called by the Vulgar Ivy-leav'd Jaſmine, from its ſingle Leaves ſomewhat reſembling the undivided Leaves of Ivy; but this is a very ill imagined Title.

The common Writers call it *Jaſminum Azoricum trifoliatum*, from its Place of Growth, the *Azores Iſlands*, and from its Leaves growing three on each Foot-ſtalk.

Its proper Name is, *Jaſminum foliis oppoſitis ternatis: Jaſmine* with Leaves placed three on a Foot-ſtalk.

It is a ſpreading Shrub, not very regular in Growth, but in all the Wildneſs far from unhandſome. The Trunk is covered with a pale grey Bark; the young Shoots are ſoft, tender, flexible and green.

The Leaves are placed regularly in threes, and theſe again in Pairs upon the Stalks: one Foot-ſtalk carries three Leaves; and theſe Foot-ſtalks riſe oppoſite to one another.

The ſingle Leaves are large, of an oval Shape, and of a deep green: they are broadeſt at the Baſe, and ſmaller all the Way to a Point.

The Flowers are diſpoſed in Tufts at the Extremities of the Branches, each Foot-ſtalk ſplitting naturally, and ſupporting two of them, and the whole Tuft amounting to eight or nine Pair when in full Glory.

Each Flower is large and white, and much reſembles that of the common Jaſmine, which it exceeds greatly in Fragrance.

The Place the Plant holds in this LINNÆAN Syſtem, will be eaſily diſtinguiſhed by an Inſpection of the Flower. This is formed, as in the common Jaſmine, of a ſingle Petal, divided into five narrow Segments, and in the Centre riſe two ſhort Filaments, crowned with their proper Buttons, but buried in the tubular Part of the Flower. The Fruit is a ſmall Berry.

The two Filaments ſhew that it belongs, as the common Jaſmine, and that large flowered Kind we have deſcribed before, to the ſecond Claſs, the *Diandria*, thoſe which have only two male Parts in the Flower; and the Style being ſingle, ſhews alſo it is of the firſt Section.

Its native Place, we have obſerved, is the *Azores* Iſlands; and it is there found in damp Ground. This indicates its Culture.

It will require a rich Earth like that naturally, and moſt uſually found near Waters: and it will need ſome Moiſture, and a Defence from extream Cold.

The beſt Way of propagating it is by Layers, and upon the Principles already delivered, let it be thus done.

Chuſe for the Mother Plant one that is vigorous and healthy; and having fixed, we will ſay, upon three Branches that are fit for laying, raiſe three Treſſels or Frames of any Kind under them, able to bear Pots of Earth.

Mix together three Buſhels of fine rich Mould, taken from under the Turf in a fertile Meadow: add to it one Buſhel of Earth from the Bottom of a Wood-Pile, and half a Buſhel of old Cow-Dung.

Blend all theſe well together; and when they have lain ſome Time, fill with this Compoſt three large Pots.

Set each upon one of the Treſſels, and let it be of ſuch a Height, as that the Branch intended to be laid, will come down to it without much Force.

Bring down the Branch thus intended to the firſt Pot; open the Earth ſix Inches deep, and lay it in.

Obſerve where the Part to be covered is, and then let it riſe again: tie a Piece of Iron Wire juſt above, and cut with a ſharp Knife three long Slits in the Part that will lie cover'd.

After this pierce half a dozen Holes through, and then wet it with a ſtrong Brine.

This done, lay it in the open Part of the Earth, and faſten it ſecurely with Pegs, or by tying: cover it up five Inches with the Earth, and give it a gentle Watering.

The beſt Seaſon of laying it is in the Beginning of *Auguſt*, for this is an Ever-green; and that is the proper Time for all ſuch.

It is thus to be managed with every Branch that is laid, and the Top of each ſhould remain about eight Inches out of the Ground.

From time to time the Earth muſt be gently watered; and the next Seaſon the Branches are to be cut off from the old Plant, and the whole Earth of the Pot ſhaken out in a Lump with the Layer.

It is then to be placed in another Pot with more Earth of the ſame Kind; and the Shoot is to be kept in the Middle of the Pot.

It will thus require no more Care than is beſtowed on common Plants of the ſame Kind, and will grow to be a handſome Shrub.

Theſe Pots muſt be ſet out in the latter End of *May*, and taken into the Greenhouſe in *Auguſt*; and every Year the Earth muſt be cleared away to a good Depth about the Roots, and freſh put in the Place of it.

With this Care, this Compoſt, and moderate but frequent Waterings toward the Seaſon of their flowering: they will produce very large Bunches of Flowers of a ſurpriſing Sweetneſs.

A Layer or two ſhould be placed under a ſouth Wall in the natural Earth, at the ſame Time that others are ſet in Pots.

Theſe will ſtand ſome Winters, though very ſevere ones will deſtroy them; but ſo long as they bear the Expoſure, they will grow more luxuriantly, and flower in a much finer Manner than ſuch as are hous'd, and for that Purpoſe potted.

4. BLUE CLITORIA.

Pl. V. Fig. 4. The Beauty and Singularity of this Plant equally recommend it to Attention. It is call'd in *Engliſh* the *Clitoris* Flower, from its *Latin* Name *Clitoria*; an indecent one; and ſo imperfectly expreſſive of the Flower, that it is neither fit, nor worthy to be tranſlated; though, in Compliance with Linnæus, it be retain'd in the *Latin.* Some have called it *Phaſeolus Glycyrrhizæ foliis.* Linnæus names it, *Clitoria foliis pinnatis*; *Clitoria* with pinnated Leaves.

It is a weak and climbing Plant: the Stalks are long, but ſlender; purpliſh at the Joints, when healthy, and elſewhere brown or green. The former is the Colour of the lower, the other of the upper Parts.

The Leaves grow with great Regularity and Beauty: five ſtand upon every Foot-ſtalk, and theſe riſe ſeparately and alternately at Diſtances on the Plant. They are ſingly, of a ſomewhat oval Shape, and are ſharp pointed; they are plac'd in two Pairs, with an odd one at the End of the Rib: Their Colour is a freſh and elegant green, and they are high-rib'd.

The Flowers grow ſingly at the Inſertions of the Leaves, one oppoſite to each, ſo that the whole Plant, when well manag'd, will be covered with them from Top to Bottom, at proper and equal Diſtances; and will thus make a very glorious Appearance. They are large, and of a moſt beautiful Sky-blue. The Fruit that follows is a kind of Pod.

This is the general Figure of the Plant.

The Flower, examined with a Botanical Attention, is ſeen to be of that Kind, call'd, from the Reſemblance of a Butterfly, *Papilionoceous.*

It is form'd of four Petals, diſtinguiſh'd by peculiar Names: the upper one, call'd the *Vexillum* in theſe Flowers, is in this large and undulated: the two ſide Petals, call'd *alæ*, Wings, are oblong and rounded at the Ends. The fourth Petal, which is placed loweſt, and call'd the *Carina*, is ſhorter than the reſt, and rounded and falcated.

This is the natural Structure; and this, in general, is the Form of all *papilionaceous* Flowers; but Culture ſometimes doubles that of the Clitoria, in which Caſe it becomes yet more beautiful.

In this Flower ſtand ten Filaments, but in a peculiar Diſpoſition; nine are united into one Body, and form a kind of Tube, ſplit at its Top, where the other ſingle Filament falls and hides the Opening.

Theſe are the Characters of the Seventeenth Claſs in the Linnæan Syſtem, the Title of which is Diadelphia: it is form'd of two *Greek* Words, and ſignifies thoſe Flowers in which the Filaments are form'd into two Aſſortments.

The Reader has obſerved before, that when theſe Filaments are united into one Body, the Claſs is entitled Monadelphia.

The ſeveral Sections of the *diadelphous* Plants are diſtinguiſhed by the Number of the Filaments; and this having ten, is one of the *decandrous* Kind. The Style is ſingle; but it is not, in this Caſe, the Mark of any particular Diviſion.

The Plant is a Native of the *Indies*, and is found wild in damp ſhadowy Places; therefore Reaſon directs that it ſhould have, in our Hands, Warmth and Moiſture.

It ſhould be rais'd from Seeds, and they will ſucceed beſt, if had from the *Indies* gather'd in perfect Ripeneſs.

Culture of the Blue Clitoria.

Early in the Spring, let a Hot Bed be made in a careful Manner, uſing good Dung, ſpreading it even, trampling it well down; and, when of a due Temper, covering it eight Inches deep with the fineſt Garden-Mould, without any Addition.

On this Bed ſow the Seeds, and cover them half an Inch with the ſame Mould; let them be ſcattered thin, and when they are covered, give the Bed a gentle Watering.

When the Plants are come up, let them be treated carefully and tenderly; and, when they are four Inches high, let them be tranſplanted into ſmall Pots.

Let theſe Pots be fill'd with the richeſt Garden-Mould, that has been well improv'd by Dung at this Time rotted and well blended with it.

Let one Plant be carefully ſet in each Pot, and gently water'd.

Let theſe Pots be plac'd in a Bark Hot-Bed, and there kept with the ſame Care, defending them from Cold, letting in a little Air, and gently watering them.

When they have thus obtain'd ſome conſiderable Strength and Bigneſs, let larger Pots be prepar'd for them: into each of theſe put firſt ſome of the ſame rich Earth; and then looſening the Earth in each little Pot, get it out in a Lump.

Trim off the Fibres that hang round the Surface; ſet the Whole upright in the larger Pot, and fill up with Earth. Place theſe in a Bark-Bed again, and ſhade and water them till they have taken good Root; then remove them into the Stove in a freſh Hot-Bed of Bark, and let them be carefully water'd. Thus they will flower as beautifully as in their native Soil.

5. GOLDEN CASSIA.

Pl. V. Fig. 5. This is a Plant of extreme Prettyneſs. The regular Growth of its Leaves gives it a ſingular Elegance; and, when the Flowers appear, their golden yellow and elegant Form add greatly to its Beauty.

It is called in *Engliſh* the *Dwarf Peacock Flower*, but that is an improper Name. The common Writers call it in *Latin*, *Chamæ Criſta Pavonis*; a Name from which the *Engliſh* one has been form'd. LINNÆUS properly refers it to the *Caſſia's*, and calls it, *Caſſia foliolis multijugatis glandula petioli pedicellata ſtipulis enſiformibus*: Caſſia, with Leaves compos'd of numerous Pairs, with the Glandule of the Foot-ſtalk rais'd on a little Pedicle, and with the Stipulæ form'd as Swords.

It is a long Name, but fewer Words would not ſo well have expreſs'd its Diſtinction from ſome of the other Kinds.

The Plant is two Foot and a half high. The Root is compos'd of ſmall long Fibres: The Stalk is round, upright, downy, and full of Pith. It is branched uſually from the Bottom, and well covered with Leaves.

Theſe are beautifully pinnated: each is compos'd of about twenty Pairs of ſmall oblong Pinnæ; and their Colour is a freſh and fine green.

The Flowers are large, and of a bright gold yellow, and they are very numerous; they ſtand oppoſite to the Leaves, or often in the Intervals between them; and they are plac'd on ſhort Foot-ſtalks, on each of which there grows alſo a ſingle ſharp-pointed Leaf, altogether different from the others.

After the Flowers come Pods, in which there are large black ſhining Seeds.

When the Flowers are carefully examined, each is found to be plac'd in a ſmall five-leav'd Cup, which is of a tender Subſtance, and falls with the Petals.

The Body of the Flower is compos'd of five Petals: theſe are large, oval, hollow, and irregular in Size; the two lower being larger, and plac'd diſtant from the reſt. In the Centre ſtand ten Filaments; which bend, and, turning upwards, have given Occaſion to ſuppoſe a Reſemblance between this and the *Criſta pavonis*, or *Poinciana*. In the Centre of the Threads riſes a ſingle ſhort Style.

This Structure of the Flower ſhews plainly to what Claſs in the LINNÆAN Syſtem it belongs: The tenth, named *Decandria*, from there being ten Male Parts in every Flower, claims this; and the Style being ſingle, ſhews it one of the firſt Section, *Monogynia*.

It is an annual Plant, a Native of ſome of the warmer Parts of the *Weſt-Indies*, and naturally grows in a deep rich Soil.

Culture of the GOLDEN CASSIA.

Early in Spring let the Seeds be ſown on a good Hot Bed, covered deep with rich Garden-Mould. When the Plants come up, let them be allow'd Time to get ſome Strength, and then be remov'd to another Hot-Bed, to bring them forward: after which they are to be planted in Pots, and treated as the other tender Annuals we have named; till they are brought to flowering.

6. SCARLET ANTHOLYZA.

Pl. V. Fig. 6. This is an extremely beautiful Plant; and has withal a Singularity that attracts every Eye, and never fails to pleaſe.

Its *Engliſh* Name is *Æthiopian Corn-flag*, but this is a very improper one. COMMELINE calls it *Gladiolo Æthiopico ſimilis planta anguſtifolia caule hirſuto flore rubicundiſſimo*. Its proper Name is *Antholyza ſtamine unico declinato*: *Antholyza*, with one of the Filaments bent.

The Root is large and fleſhy. The Leaves are of a ſingular Form and Structure: they are long, narrow, ſharp-pointed, rib'd length-wiſe, and in all Reſpects of the Kind we call Graſſy; but that they have ſhort Foot-ſtalks: from theſe they riſe hollow at the Baſe, and grow broader as they continue their Courſe, to a third Part of the Length, whence they grow narrower again.

The Stalk riſes in the midſt of theſe, and is round, hairy, and a Foot and half in Height.

The Flowers grow in Cluſters from the Sides of the Stalk; they are plac'd on ſhort Foot-ſtalks, ſurrounded by ſome ſmall membranaceous Leaves at the Baſe.

They are very large, and of extreme Singularity as well as Beauty. Their Colour is on the Outſide a very elegant pale red, and a deep Blood-red within. They are very long, large, hollow; and have an upright Lip.

The Seed-veſſels are three-corner'd; and the Seeds are numerous and large.

This the common Obſerver ſees; but to the Botanical Student no Flower demands more particular Attention.

It has no Cup beſide the few irregular Leaves before nam'd, which ſerve to ſeparate the ſeveral Flowers that grow in the ſame Cluſter.

The Body of each Flower is form'd of a ſingle Petal: this is ſmall and tubular at the Bottom; it thence riſes to a conſiderable Height, extending all the Way in Breadth; but it is not in this Part rounded, in Manner of a Funnel, but flatted; and at the Top it forms a kind of gaping Mouth, compos'd of two very irregular Lips.

The upper Lip is long and narrow, undulated, and ſtrait, and has two ſmall Segments at the Baſe. The under Lip is ſhort, and is divided into three Parts.

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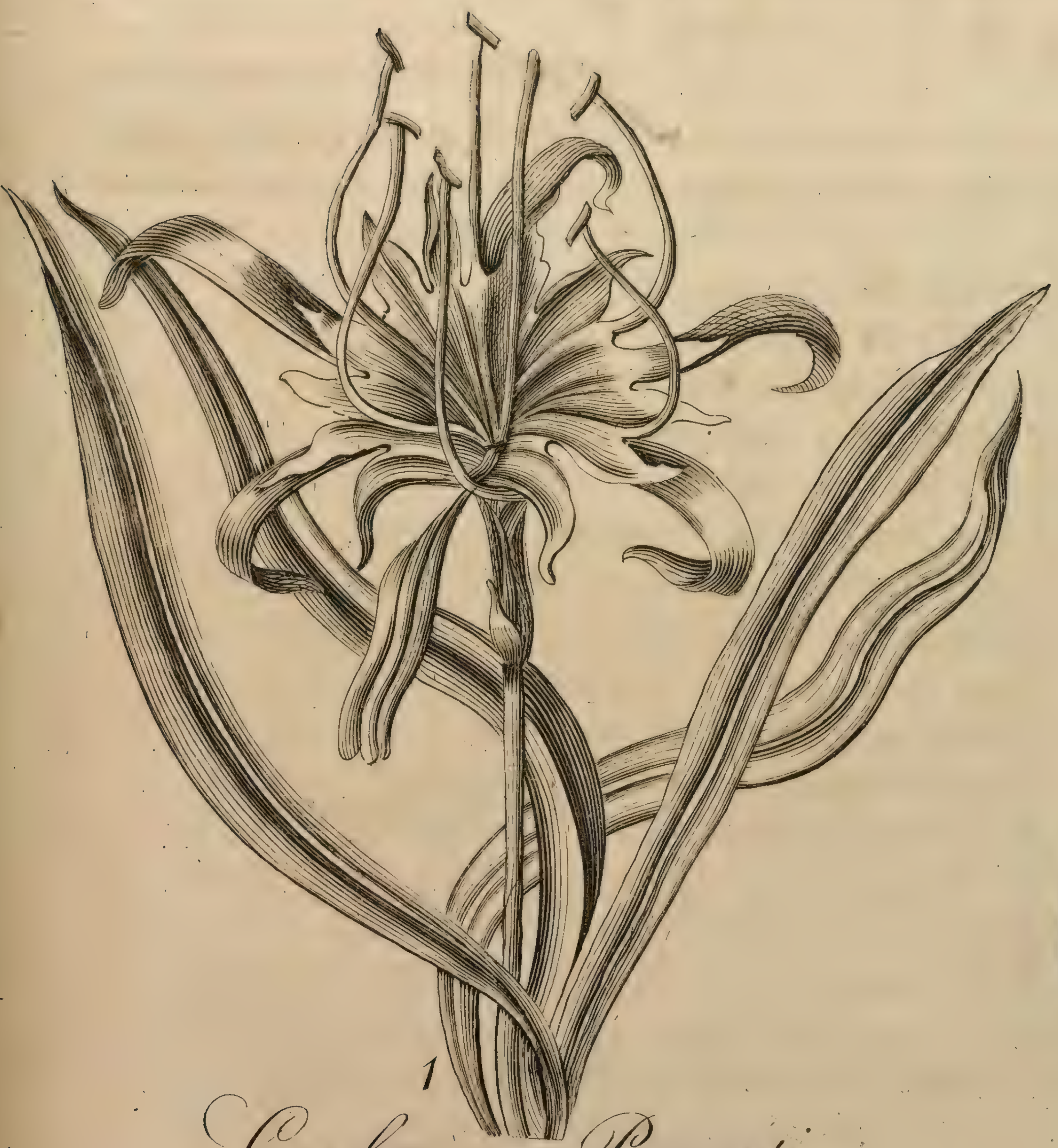
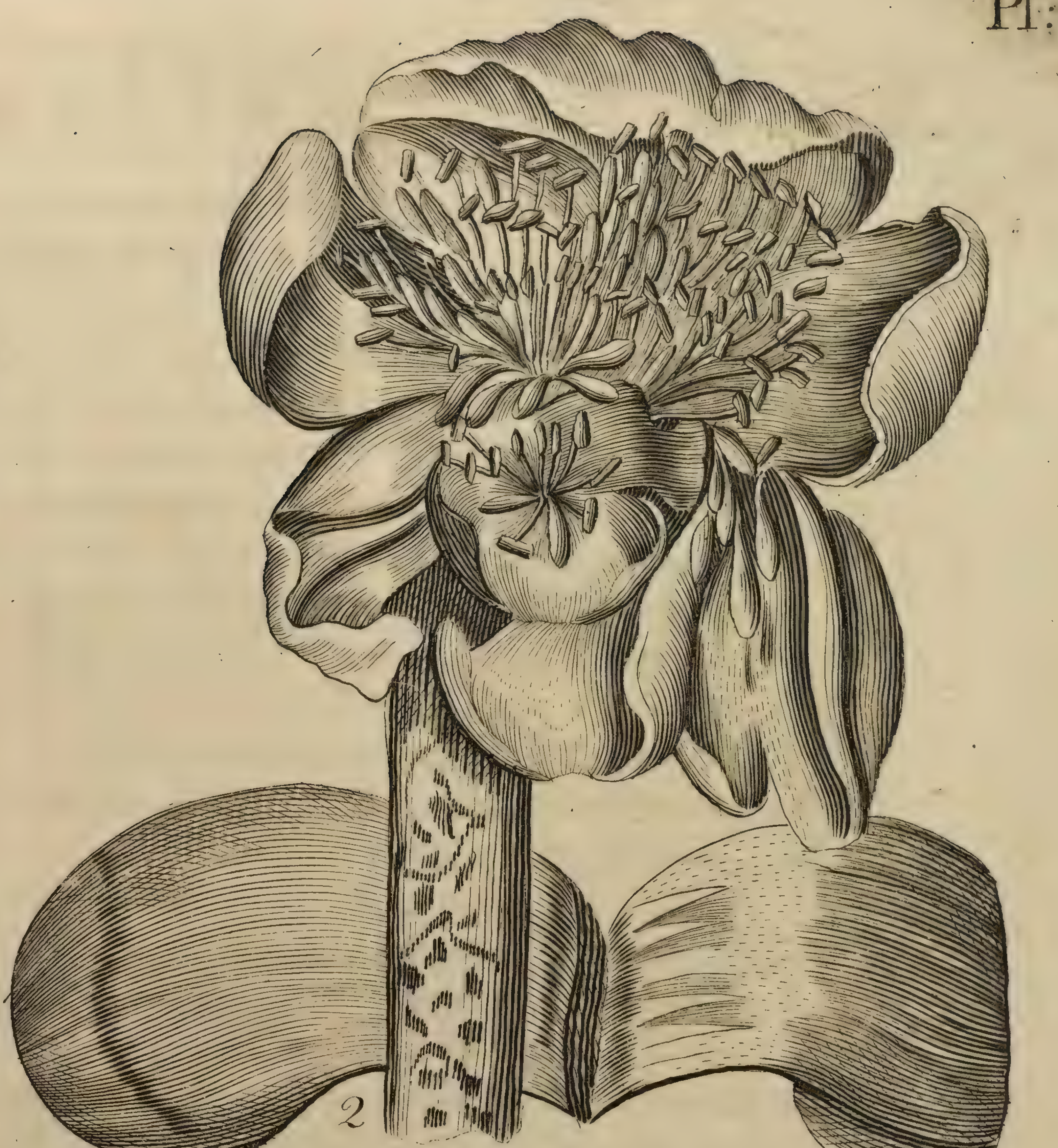


1

Ceylon Pancratium



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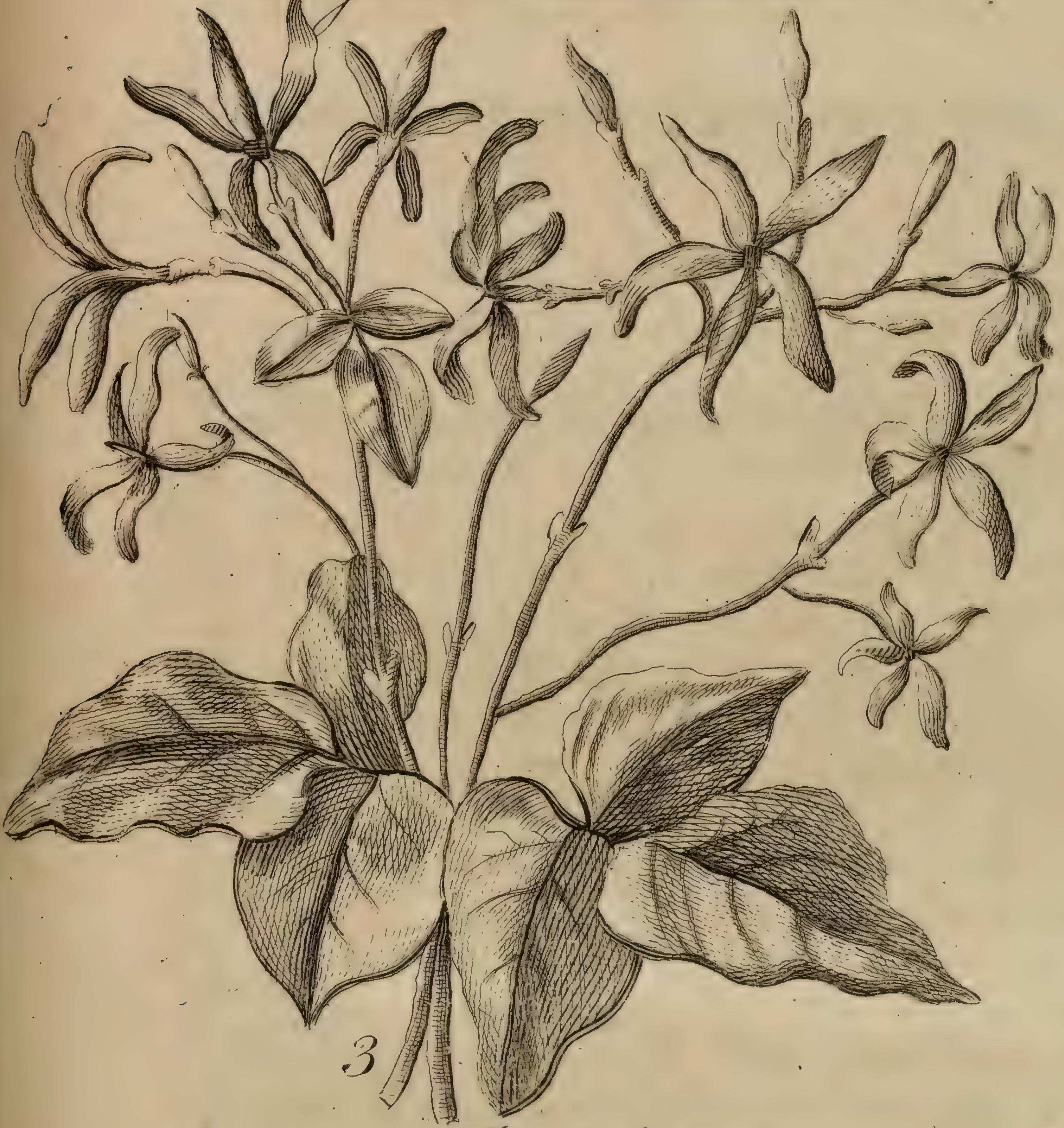
Purple Hæmanthus



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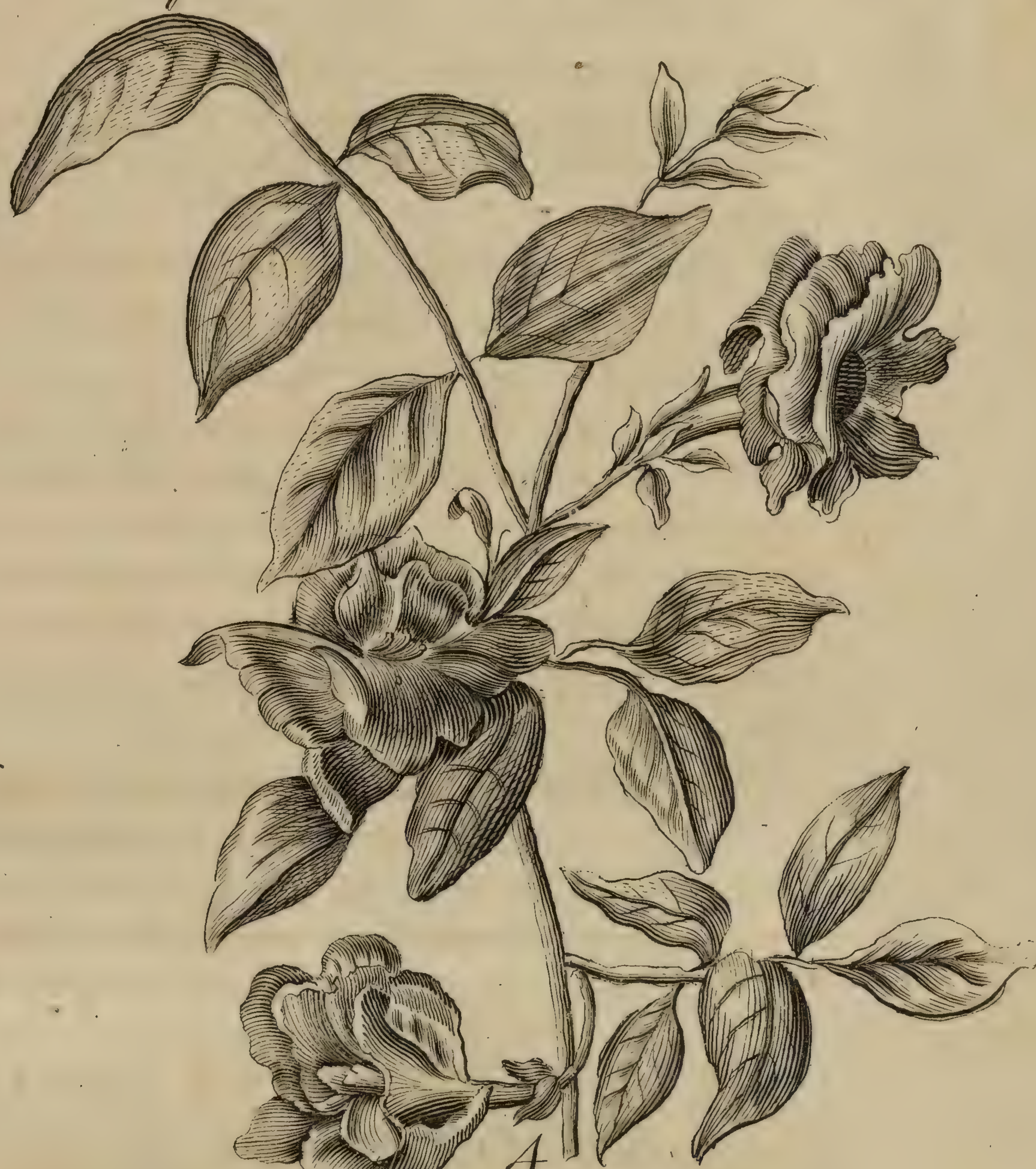
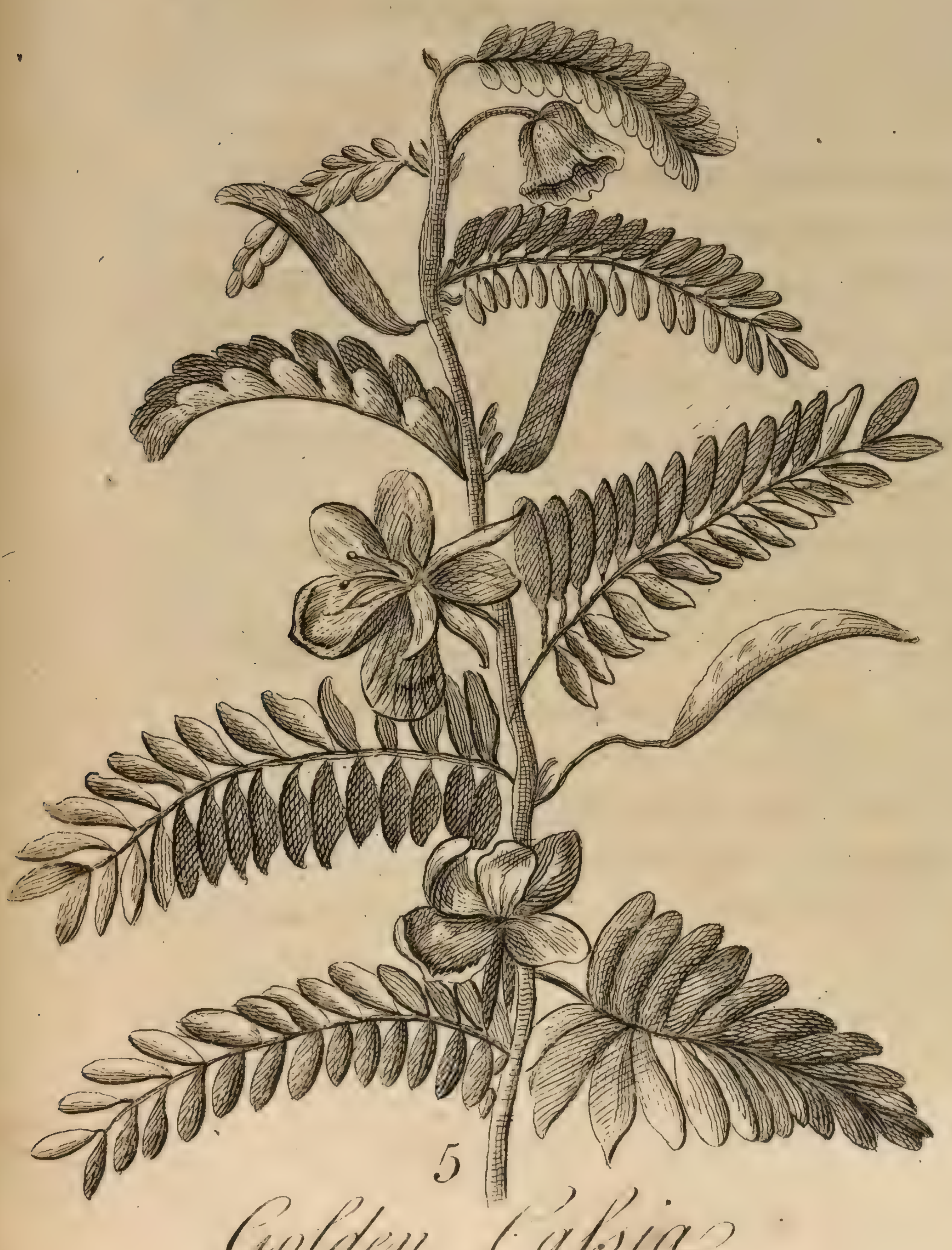
Azorian Jasmine



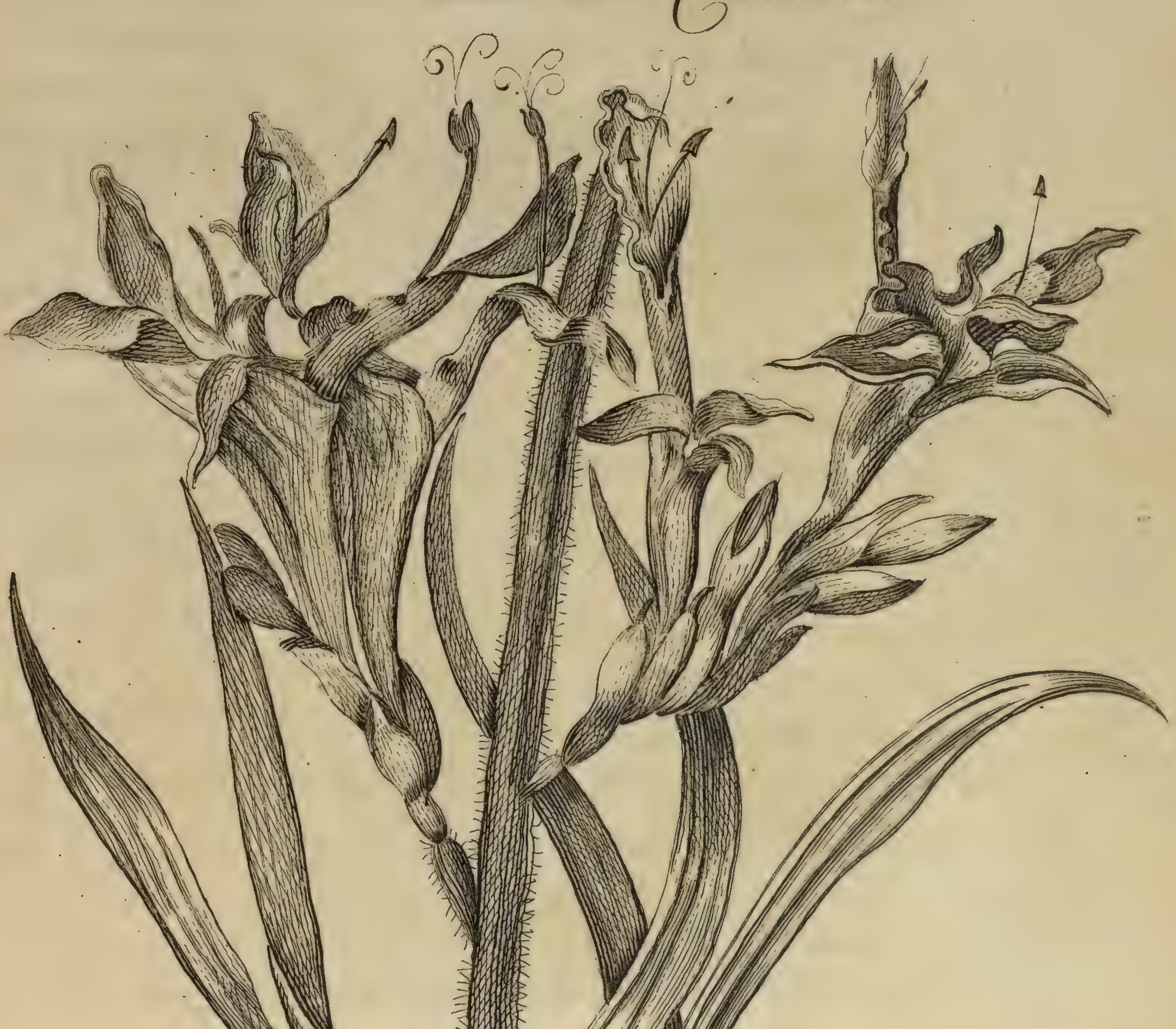
4

Blue Clitoria



5

Golden Caſsia



6

Scarlet Antholyza

In the Body of the Flower are lodged three Filaments: they are very long and ſlender, and are terminated by pointed Antheræ.

Two of theſe follow the Courſe of the upper Lip, and one is placed in the lower. The Style is ſingle, and is placed with the two upper Filaments, and at its Top ſplits into three capillary Segments which turn downwards.

The extream Singularity of this Flower will not prevent the Student from very readily perceiving to what Claſs in the LINNÆAN Syſtem it belongs.

It is one of the Triandria, thoſe which have in every Flower three male Parts; and from the Style being ſingle, he ſees it is one of the Monogynia.

It is a Native of *Africa*, and grows there in Sands near Rivers. This ſhews what is its proper Culture.

The Roots which bear to be kept without Damage a conſiderable Time out of the Ground, are to be obtained from their Place of Growth, and about *June* put into a light rich Earth in large Pots.

The beſt Compoſt will be this. Mix equal Parts of freſh Mould from a Paſture, common Sand, and the Earth from under an old Wood-Pile.

With this fill the Pot about two thirds; then place in the Root, and put in more of the ſame Soil carefully, till it is covered an Inch deep at the Top.

Give it a gentle Watering, and ſet in a warm ſheltered Place. In *Auguſt* the Leaves will appear: it muſt then be removed where there is more Sun, and watered lightly every Day.

In *September* it ſhould be ſet into a Stove, and allowed a temperate Heat, and ſtill be moderately watered.

This Conduct will not fail to bring it to flower in all its Beauty.

CHAP. II.

The Care and Culture of the PLEASURE-GARDEN, *for the laſt Week in* September.

LET the Gardener begin this Week by going over his Ground, and ſeeing carefully whether any thing be omitted that ſhould have been done in the preceding.

Let him ſee whether all his Layers have been removed from the old Roots; for if not, it muſt not be deferred now.

If it be any longer omitted, there will be Danger of their being loſt. The Froſts will ſoon come on; and theſe will prevent their rooting, if that be not done pretty ſecurely before.

Let him look if there be any Gap or Deficience in the Borders planted from the Seminary; and if there be, let him fill it now for the ſame Reaſon.

Let him in this laſt Round ſee that every Part has its Plants for the ſucceeding Year's flowering. Having done this perfectly, and ſcattered a little rotten Dung mixed with freſh Mould upon the Surface of the Borders that moſt wanted Refreſhment, he may ſo leave them to Nature.

This, which is the common Management of the Borders, being over, let him return to the Care of his more choice and delicate Flowers.

We have inſtructed him to prepare a Soil for Hyacinths, that will bring them to a Perfection altogether unknown to his Neighbour's Flowers of the ſame Kind; and we are now to ſhew him the Manner of uſing it.

A Bed of proper Size for the Quantity of the Roots is to be made two Foot and a half deep, and a Quantity of the ſame Soil reſerved for covering the Roots.

When the whole Bed has had Time to ſettle, ſmooth the Surface to an exact Level, which is to be about an Inch higher than the common Ground, and draw Lines along it; the firſt at ſix Inches Diſtance from the Edge, and the others at nine Inches one from another.

When Lines are thus made along the Bed, let others be made at nine Inches Diſtance, croſswiſe of the firſt.

The Bed will be thus divided into ſo many regular Squares, and in the Centre of each Square is to be placed one Root.

Let the Gardener take Care that he ſet the Root exactly upright: then let him draw a little of the Mould about it to keep it ſteady; and when they are all placed with this Care and Regularity, let him lay in the Earth reſerved for that Purpoſe, covering them four Inches and a half deep.

Great Care muſt be taken that this Earth is laid in lightly and evenly, not to diſplace the Roots; for we have ſhewn the Gardener before how great a Diſadvantage it is to a fine Flower, to have the firſt Shoot made irregularly.

The Top of the Bed ſhould be a very little raiſed: about two Inches is rounding enough in a Bed of four Feet; and when all is thus done, they are to be a little aſſiſted in unfavourable Weather.

When Roots are thus planted that have been ſome Time out of the Ground, they at once either ſhoot or decay.

The neceſſary Ingredient for their ſhooting is a little Wet; and if Nature do not ſupply this, Art muſt.

The Beds ſhould be regularly and gently watered once in four Days, if there be not Showers. They will by this Aſſiſtance make the firſt Shoots of their Fibres; after which there is no Danger of their Decay.

They will require to be a little ſheltered when the ſevere Froſts come on; but that we ſhall conſider in its proper Place.

The Gardener who has obſerved our Directions in the preceding Numbers, has now his Beds for Tulips, Ranunculus's and Anemonies ready: for the Roots the Ground is ſettled, and they may be planted without Fear of Accidents.

Let him begin with the Ranunculus's and Anemonies, for they require the ſame Management.

For this Purpoſe let him draw off three Inches Depth of Mould from the whole Surface of the Bed, and then make the Top perfectly level.

This done, let him give it a gentle Watering; and when it has had two or three Hours to dry the Surface, let him draw Lines length-wiſe and croſs-wiſe of the whole Bed, at eight Inches Diſtance every Way from one another.

The common Writers on Gardening order theſe Roots to be planted at four Inches Diſtance: and Mr. Miller, who, in one of his Publications, orders this four Inch Method, in a ſucceeding one directs ſix Inches.

The Gardener does not know what Rule to follow, when this ſovereign Inſtructor contradicts himſelf: but we ſhall tell him, that in both theſe Directions he is wrong.

The Ranunculus's and Anemonies of our neighbouring Countries greatly exceed our own; and it is principally owing to the greater Diſtance they allow the Roots.

We follow them ſlowly and imperfectly: at one Time they excell'd us in the Colours of their Flowers, becauſe they raiſed them from Seed; and we propagated them only by Off-ſets from the Roots; thus debarring ourſelves from the great Source of Variety.

We have now taken their Method of raiſing the Plants from Seeds, and we ſhew Flowers as finely coloured, and of late ſome better than the beſt of theirs in this Reſpect: but while we exceed them in the colouring of ſome, they beat us in the Strength and Boldneſs of all.

The Occaſion of this is, that they allow a greater Space for the Roots to extend.

We have explained this at large to the judicious Gardener, that he may ſee the Reaſon of our Practice; and we ſhall add, that the moſt common Eye will give the Preference to the general Appearance of a Bed of either of theſe Kinds where they are at eight Inches Diſtance, to one in which they are at four.

They may be crouded in a Nurſery; but when they are planted out for Shew, this Diſpoſition ſhould always be obſerved.

The ſame Quantity of Roots by this Means covers a double Space of Ground, and has a ten-fold Beauty. The Obſtinacy of ſome Gardeners will not perhaps ſuffer them to receive Information; for long Cuſtom in a wrong Method, has made them think it right: but to the more Intelligent we appeal againſt theſe vulgar Errors; aſſuring them, from Experience, of the Succeſs of what is thus dictated by Reaſon.

The Culture of Plants was very little underſtood, when theſe ſmall Diſtances were aſſign'd to Roots of Flowers; and the Improvements and Advances have been made in vain in this Science, if dreaming Writers will ſtill lead the Gardener into the old ill-underſtood Tract.

The Beds being thus marked into eight Inch Squares, let good Roots be picked out, and placed one in the Centre of each Square.

Let them be ſet perfectly upright, and an Earth drawn about them, to keep them ſteady: then let the Soil, taken off the Bed for that Purpoſe, be carefully laid on, and the Roots thus covered to two Inches and a half deep.

Let the Bed be finiſhed with a ſmall rounding; and if the Day be not ſhowery, let it be gently watered.

Care being taken of theſe ſeveral Roots, there remain only the Tulips to be planted.

The Beds are ready for theſe, but there requires a peculiar Method of ſetting them.

They are Bulbs, and muſt be planted deep. The Earth muſt be drawn off from the Top of the Tulip Bed ſeven Inches thick, and the Surface perfectly levelled.

A little ſprinkling of Water is then to be given; and when the Top is dry again, it muſt be marked out into Squares.

The Lines for this Purpoſe muſt be drawn at ſeven Inches Diſtance length-wiſe, and at eight Inches croſs-wiſe; and one Tulip muſt be planted in the Centre of each Square.

The Bed being thus marked out, let one Root be placed, as in the former Inſtances, in the Centre of each Square, and the Earth drawn up about it to keep it ſteady.

One Direction ſerves for all theſe Caſes; for the Buſineſs is the ſame; to place the Roots regularly and to keep them upright. The principal Difference is their Depth and Diſtance from each other.

When the Roots are all placed, the Soil that was taken off is to be carefully laid on again, and the Bed thus raiſed about ſix Inches above the Tops of the Roots: it muſt be finiſhed a little rounding, as the laſt, and if the Day be not ſhowery it muſt be watered.

CHAP. III.

Of the Management of the Green-houſe and Stove.

THE Buſineſs of the Greenhouſe for this Week is to clean and prepare it for the Reception of the Trees and Plants, which have ſtood out during the Summer: and Advantage is to be taken of ſome dry Days to bring them in.

The tenderer Kinds are to be taken in firſt, and they ſhould be placed near the Front ſome Time, before they are ſet where they are to ſtand the Winter.

The great Care is to bring them in before the Cold has affected them, and when there is no Wet upon them: in either of theſe Caſes the Leaves will flag and loſe their Colour; and they never recover this till the Seaſon of ſetting them out into the Air again.

The tender Exoticks, which require a Stove Heat, muſt now be prepared for, and Bark Beds made for their Reception.

The larger Kind of Bark is to be choſen for this Purpoſe, becauſe it heats gently.

The Plants muſt be ſet in when the Warmth begins; and the Bed muſt be watched and examined from time to time, to ſee that it does not acquire too violent a Heat.

When the Plants are removed into the Stove and the Green-houſe, the ſame Care and Management muſt be uſed: the Earth muſt be ſtirred a little at the Surface; all dead Leaves muſt be taken off, and the Branches and Stems muſt be looked over, and cleared of Foulneſs and Inſects.

By this Means they will be rendered clean and vigorous for the Winter.

SECT. II.

The Buſineſs of the SEMINARY, for this Week.

BOXES of light rich Earth ſhould be prepared for receiving the Seeds of ſuch Flowers as are long in coming, this Way, to Perfection.

They will require no great Trouble during the Time; and they will amply repay it, when they come to flowering.

All that is to be done now, is to level the Surface of the Mould in theſe Tubs, and ſcatter upon it the Seeds moderately thick.

They are then to be carefully covered; and the proper Depth is half an Inch.

When the Earth is on, a very little Watering ſhould be given from a fine Pot, and a little looſe dry Hay ſprinkled over the Top.

In this Manner the ſeveral Kinds of Iris Colchium and Sowbread will ſucceed.

Tulips, Fritillaries and Hyacinths muſt be ſown in the ſame Manner; but they muſt be covered an Inch deep with Mould.

On the contrary, Ranunculus and Anemone Seeds muſt not be covered above a quarter of an Inch; and they muſt be ſown the thicker for this Reaſon, becauſe many of the Seeds will periſh.

The Boxes ſhould be placed in a warm Situation, but not under Shelter, and in dry Seaſons they ſhould be gently watered.

SECTION III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

Fruits now in their Perfection.

THE Fruit Seaſon is now on the Decline; but there are yet the Remains of ſome excellent Kinds which we have named in the preceding Week's Number; and ſome but coming in.

There are Peaches, Grapes and Figs; the Nut Kind and the Medlar; and there are alſo ſeveral Kinds of Pears and Apples.

Of the Peach Kind, the *Violet* is now in its full Perfection.

This is a large rich Peach. Its Shape is oblong, and ſomewhat oval. The ſunny Side is purple, and the other white.

There is alſo white Down very lightly ſcattered over the purple Part.

The Pulp is melting, and its Flavour extreamly ſweet.

The *Admirable* is another Peach now in its full Perfection. It is an excellent Kind, and well worthy of its Name. It is very large, and in Shape perfectly round. The ſunny Side is of a purpliſh red, and the other of a greeniſh white.

It is a firm Peach, but very well taſted; the Fleſh is purpliſh, and it parts eaſily from the Stone.

The *Royal* is another of the Peaches of this Seaſon. It is called alſo the *Pavie Royal.* It is a very large round Peach, and is red all over, except a ſmall white Part next the Wall.

On the ſunny Part it is deeper, and on the reſt paler.

It is of a rich Flavour, and the Fleſh parts freely from the Stone.

The Colour in general is pale, but about the Stone it is red and bloody.

Of Grapes there is the *Mealy* or *Miller's Grape*, ſo called from the Mealy Covering of the young Shoots. The Grapes are round, and moderately large: they ſtand very thick in the Bunch, and are covered with a blue Tinct when full ripe.

The *White Muſcadine* is alſo now ripe. This is a pleaſant and well flavoured Grape; and when full ripe becomes a little yellowiſh. The Skin is thin, and the Seeds are ſmall. It is a very wholeſome Kind.

The *Royal Muſcadine* muſt not be ſuppoſed the ſame with this; the Grapes are greener, and the Skin is thicker; but the Flavour is ſuperior.

The *Pearl* Pear is now full ripe, and is an excellent Kind. It is ſmall, but perfectly agreeable: the Juice rich, and the whole Subſtance melting. The Shape is longiſh; and when ripe, the Colour is a pale yellow, with ſome Streaks of purple.

There is another Pear like this, but large. It is called the *Blanquet*; by ſome the *Great Blanquet*, theſe calling the other the ſmall one. This is rich and melting, and its Colour is a deep yellow, with but little red.

The *Roſe* Pear is now alſo full ripe. This is of a pale yellow, ſpotted with brown, and ſometimes has a Spot of purple to the Sun. Its Shape is longiſh, and its Taſte like that of Roſe-Water, from whence it had its Name.

Of the Plum Kind, the *Verdock* is now very fine. It is a middle ſized Plum, of a pale yellowiſh Colour, and duſted over with a pearly Meal. It is bigger than the Green Gage, a little longiſh, and marked with a Furrow on one Side. The Fleſh is yellow and finely flavoured, and it ſticks firmly to the Stone.

The *Roche Corbon* is another fine Plum: this is one of the red ones. It is purple to the Sun; of a whitiſh green next the Wall, and red between. It is covered with a blueiſh Powder when ripe, and is a very excellent Kind.

The Fleſh is yellow, rich and juicy, and parts freely from the Stone.

The *Spaniſh Damaſk* is another very good one, but not equal to the two preceding. It is a round middle-ſized Plum, red, and covered with a blue-grey Duſt. The Fleſh is of a greeniſh yellow, and parts freely from the Stone.

Theſe are the principal Kinds to be expected this Week.

CHAP. II.

Of the Care and Management of the Fruit-Trees.

THIS is a good Seaſon for propagating Gooſeberry and Currant Trees: and if ſome hearty Showers fall, it will be proper not to loſe the Advantage.

The common Method of raiſing theſe Trees is by Suckers; but they never grow to a tolerable Form this Way, without a great deal of Trouble.

We ſhall adviſe the Gardener to do it by Cuttings; and we may venture to promiſe him this Way better Succeſs.

Let him take the Cuttings from the bearing Branches of ſome very thriving Gooſeberry Trees. Let them be ten Inches long, and cut with Care. Let a Border be dug up and made fine for them; and let them be planted carefully four Inches deep.

Let the Earth be well ſettled to them, and give them a gentle Watering, repeating it occaſionally, if there be not Showers.

Shade them and defend them from cold Winds; and they will take Root before the Froſts, and eſtabliſh themſelves during the Winter; ſo that in the ſucceeding Spring they will ſhoot with Strength and Vigour.

The great Care while this is going on is to rub off the under Shoots, that the Shrub may riſe with a good Stem: but this we ſhall ſpeak of at the Time.

There ſhould in every good Garden be a forcing Frame for early Fruits; and for ſuch as have not this material Requiſite, we ſhall in the proper Seaſon give the Method of making it.

Suppoſing there is one, this is the Time of pruning and training the Trees.

As the Fruit in this Way is to ripen at a particular Time, all the Operations upon the Trees are alſo to be done at Times appropriated to that.

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that. The Buds will be getting forward by this Means, and will be in a very good Condition of Growth, by that Time the artificial Heat is to be applied.

Another conſiderable Buſineſs of this Seaſon is the gathering of Fruit: we have given Cautions on this Head reſpecting the Time; but there is another Article as little regarded by our common Gardeners, which is the Manner of doing it.

This is in ſome Reſpects general, as relating to all Kinds; and in others particular, as regarding the ſeparate Species.

The firſt general Rule is never to gather them, but in their Perfection; and this is to be known by their Colour and Surface.

The Vulgar have a Way of trying by pinching them; but this is a very ungardener-like Method; and is not neceſſary.

When Plums are ripe their Colour is bright and fine, and the mealy Powder lies full and yet light upon them.

The Way to gather them is to touch them very lightly, ſo as not to rub off the Bloom; and then having ever ſo little Hold, the ſmalleſt Twiſt takes them from the Stalk.

Sept.

Never give them a ſecond if the firſt does not looſen them: for in that Caſe they are not ripe, and ſhould be left on a Day or two longer.

The ſame Rule holds for the Peach; if the leaſt Twiſt does not bring it off it is not ripe: and this is a Fruit that never ſhould be gathered till it is perfectly ſo.

To know whether Grapes be ripe, obſerve their Skin and Colour. When they are ripe they are very clear and tranſparent; and they never are ſo till then: therefore this is an unerring Rule.

In examining a Bunch Regard muſt be had to the greater Number of Grapes upon it; for they never all ripen together. When this large Part are thus tranſparent let the whole be gathered, and let the unripe ones be taken off, as alſo any damaged Berries; before they are ſent to the Table.

Pears require a different Management; for they ſhould always be gathered three or four Days before they are ripe. They will ripen very well in lying; and if they are left all the Time upon the Trees they grow mealy.

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SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Products of the Kitchen-Garden now in their Perfection.

WE ſhall not carefully inform the Reader that he may now have Cabbages and Carrots. This is a Sort of Information which none can need: we therefore leave the Recital of it to Writers of another Claſs.

But beſide theſe, and the other Products ſold at every Herb-Stall, the better Kind of Gardens now afford the Netted and the *Portugal* Melons in great Perfection. The firſt Kind is known by the great Quantity of Net-work on the Outſide, and the *Portugal* by its Smallneſs, Roundneſs and delicate Smell.

Muſhrooms will be afforded from the Beds in Plenty, and there may be a great many gathered ſmall; for there will be a ſufficient Supply for larger Growth.

The great Parſley Root continues good: and the Black *Spaniſh* Radiſh, of which ſome are fond, is in great Perfection. Gourds and Squaſhes are alſo in Order for Soups; and for ſuch as are fond of it, the Chard-Beet.

This is a Time when the Rocambole is in great Perfection. Finochia alſo continues fine; and there will be, with good Management, ſome very good Cabbage-Lettuces on the warm Borders. There may alſo be ſmall Salletting for ſuch as approve it at this Seaſon, by frequent Sowings and good Care.

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CHAP. II.

The Care and Culture of the Kitchen-Garden.

WITH the laſt Article nam'd among the Products of this Seaſon, we may begin the Chapter of Buſineſs; for young Salleting is of a quick Growth, and may be continued yet ſome Time.

For this Purpoſe, chuſe now a South Bed, under

Sept.

der a Wall; and ſow the Seeds deeper than at other Times. Turnep, Creſs, Muſtard and Radiſh, are the four beſt Kinds; their Mixture makes a very good Sallad, and they will, with this Care, thrive very well. If they ſhould be ſown ſhallow, or more expos'd, the Froſts would looſen their Roots, and they would come to nothing.

Let the Gardener's next Care be the refreſhing his Aſparagus Beds.

The old Stalks are to be cut off, and laid by in Heaps, and the Weeds are to be clear'd away with them. When the Beds are thus clean'd, let the Surface be ſtir'd with a Hoe and Rake, and ſpread over it a moderate Covering of the old Dung from one or more of the Summer's Cucumber-Beds. Then pare the Alleys between the Beds, and break the Earth, that is taken off, fine: ſtrew this over the Beds upon the old Dung, and give all a gentle Watering.

The Beds being thus taken Care of, ſome Uſe may be made of the Alleys.

Let the Heaps of Weeds be dug in and well covered, and theſe will ſerve as a Manure.

Alleys lying low between the Beds, will be a fine ſheltered Spot for ſome Colewort Plants. Theſe will be very ſecure; and being planted at three Foot diſtance, in a ſingle Row in each Alley, they will have abundant Nouriſhment, without doing the Aſparagus any Harm.

They will ſtand thoſe Winters which deſtroy the common Crops; and they may be taken away before the Time of the Spring-dreſſing of the Beds.

Let a Piece of Ground be well choſen for a Crop of Beans and Peaſe: it muſt be defended from Cold, and open to the South Sun. Dig into this ſome Sand and Coal-aſhes; and then plant it half with Beans, and ſow the other half with Peaſe. If theſe ſtand the Winter, they will come in at a fine Seaſon; and they will be the more like to do it, for this Practice of digging in the dry and warm Ingredients. It is a Practice known to few, but it is founded on the plaineſt Reaſon.

There is nothing gives the Froſts ſuch Power upon the Kitchen-Garden Crops, as Wet. It is found univerſally, that when other Things are alike, thoſe Herbs planted in dry Places ſurvive the Froſts, which kill thoſe on wet Ground. This is an artificial Method of rendering the Earth leſs able to clod and crack about them.

In a Garden well manag'd in the Article of Sowing, there will be Cauliflowers now beginning to get Heads. Theſe require Care, and they will come to Perfection at a Time when they will be very valuable.

They ſhould be now defended from Sun and Rain; and yet there is a Neceſſity of their having a free Air. The Rains will rot them; and the Sun, while it brings them forward, will make them yellow.

The Method to keep them ſound and white, is to cover them with their own Leaves. The inner Leaves ſhould be crack'd at the Rib, and bent down over them; in this Condition they will be ſhadow'd, and yet have Air enough; and they will grow quick and finely.

Broccoli ſhould now be in a promiſing Condition; and due Care being taken of it, there will be after this little Danger. The ſame good Growth that forwards it at this Time, expoſes it more to the coming Froſts; to protect it from theſe, and at the ſame Time encreaſe its Vigour, proceed thus:

Break the Earth between the Plants, very thoroughly, to the Depth of five Inches, and draw a good deal of it about their Stalks. The two Advantages ariſing from this, are obvious: the Earth is broke, and by that rendered fitter for nouriſhing the Plants; and their extreme Roots are broken off; and therefore there is a new Parcel form'd for ſpreading in it. At the ſame Time that their Stalks are defended and ſupported againſt the Severities of the Weather.

Two Cautions are to be us'd in doing it: the firſt is, to chuſe a good Day, when the Earth is dry; and the next is, to pile it up to a due Height, without Damage. If the Heart of the Plant be cover'd, it is deſtroy'd inſtead of being preſerv'd.

The Muſhroom-Beds, made as we lately directed, continue producing abundantly; but they muſt be defended from the approaching Cold and Wet. The Froſts will prevent the ſhooting of the Muſhrooms, and the cold Rains will rot the Spawn.

Some, for this Purpoſe, cover them with Frames and Glaſſes; but this, though a very ſafe Method, is not a good one. The Beds produce in Abundance by this Practice, but the Muſhrooms will be bad.

We have obſerved before, that the Bed Muſhrooms are inferior to thoſe of the Field: and theſe are worſt of all; the ſmother'd Vapour of the Dung gives them a nauſeous Flavour.

The Farmer ſhews the Gardener what he ſhould do in this Caſe; the ſame Caution by which he defends his Stacks of Hay, will anſwer in this Manner for the Muſhroom Beds; that is the covering them with a Ridge of Thatch.

Let this be carefully laid on, made ſufficiently thick, and brought down low enough, and it will anſwer all the Purpoſes; the Rain will be carry'd clear off, and the Froſt will, for that Reaſon, have little Power.

In this Manner the Muſhroom Bed will do its proper Office; it will produce in Abundance during the Winter; and that is a Time when they are not to be had from the Fields.

This is the great Uſe of theſe Beds; and the Muſhrooms will be as well flavour'd as any rais'd on Beds can be.

The ANSWER of the Proprietors of the Compleat Body of Gardening, to the Objections made by the Author of the Gardeners Dictionary.

ON the Appearance of the firſt Number of the COMPLEAT BODY OF GARDENING, the Proprietors of Mr. *Miller's* Dictionary propoſed that Book in Weekly Numbers: An Artifice to divide the Attention of the Publick, and prejudice the Sale of our Original Work.

They have in great Part adopted our Plan, and engaged to model their Book according to it. (*See* Col. 1. &c.) But of this we apprehend it is not capable.

They accompany their Deſign with many Columns of Cenſure on our Work; to the ſeveral Articles of which we give the following Anſwers.

Our Characters of *Canna* they ſay are taken from *Linnæus*, and the Deſcription of that Plant from ANOTHER BOOK. The Characters are from the Flower itſelf; and they agree with *Linnæus*, becauſe his are juſt: The Deſcription is from the BOOK OF NATURE.

Their Author ſays the *Fig Hibiſcus* is not a handſome Plant, and that it cannot live out of a Stove. *Commeline*[*] and *Ray*[§] celebrate it for its Beauty; and it flowered this Year in open Ground at *Weſtbourn Green*. We ſee in this the Conſequence of a miſtaken Culture. This ingenious Gardener never ſaw the *Fig Hibiſcus*, but where it was choaked in a Stove; and he did not know it in its natural Form. The Figure he ſuppoſes copied from *India* Paper. Mr. *Oſborne* will ſhew him from what it was taken.

The branched and upright *Larkſpur* differ, they ſay, in Species. The Seeds of either will raiſe both, therefore they are only Varieties. *Tournefort* enlarged the Number of Species erroneouſly; and it is allow'd to be the great Fault of his Book: From him they are taken as they ſtand into the *Gardeners Dictionary*. *Linnæus* has retrenched them: It is his great Merit: And him, with due Obſervation, we follow in this Part of our Work.

They ſay the Soil we propoſe for *Geraniums*, will make them luxuriant in Branches, and leſs productive of Flowers. They have not tried it: For Experience ſhews the contrary. They blame alſo our Diſtance of planting the Cuttings; but that alſo Practice confirms.

The *Double Oleander* they call a diſtinct Species from the *Single*; and their Author again affirms *Linnæus* is wrong in ſaying, as we do, that it is only a Variety. This is a bold but needful Aſſertion: for if *Linnæus* be right in this Matter, the *Gardeners Dictionary* is full of Errors.

Only Seven Plants are named, to which the Opinions of that Author are annexed; and their Author aſſerts he is miſtaken concerning Three of them. He who cenſures *Linnæus* muſt be a Maſter of Learning and of Science: Their Author deſerves Reſpect, for the Knowledge he has attained without the Advantage of an Education: but it is not enough to raiſe him as an Antagoniſt againſt *Linnæus*; unleſs their Modeſty would have the Publick think, he knows thoſe Things which can only be found in the Books of the Learned, better than thoſe who wrote them.

He frequently and freely affirms *Linnæus* is miſtaken: but, if it were ſo, how could he know it? *Linnæus* wrote in *Latin*: A Language he evidently does not underſtand, even in the Names of Species. *Foliis carinatis* is tranſlated *Fleſhy Leaves*, in the Plants adapted to the *Gardeners Dictionary*.

We ſhall give a Method by which the Seeds of the *Single Oleander* will produce the *Double*; and the ſame Culture preſerve it.

The *Indian Nerium* their Author ſays has no Beauty. This depends in ſome Degree on Fancy; but moſt probably he miſtakes the Plant: For wanting the Language in which the Species are deſcribed, he can know moſt of them only from Hear-ſay or Conjecture.

Having thus cenſured the Scientifick Part of our firſt Number, they proceed to the Attack of the Practical: And in this they are equally unhappy.

Little Work, they ſay, is mentioned in the Flower-Garden for the laſt Week of *Auguſt*. Let them read the Directions for the firſt of *September*; and they will find there is no Deficiency.

Ever-greens and hardy Shrubs, their Author here ſays may not be planted at the ſame Time. But Experience ſays they may; and he knows it[†].

The Liſt of Fruits they cenſure as too ſmall in our firſt Number. They forget they are the Fruits but of one Week. Let them add the Catalogues of the three ſucceeding, and compare them with a Month's Fruit in their own Book.

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[*] *Inter plantas amæniores a florum cultoribus reponendam eſſe cenſeo ob florum elegantiam.* Commelin. Hort. Amſt, Vol. I. p. 38.

[§] *Ob. florum elegantiam coli meretur.* Ray. Hiſt. Plant, Suppl. p. 518.

[†] The Beginning of this Month plant Cuttings of Laurel. Alſo other hardy Shrubs, for at this Seaſon they generally ſucceed better than in the Spring, *Miller's Gardeners Calendar, laſt Edition, Article* September. See the two Paſſages at large on the other Side.

The Time directed for planting Raſpberries and Strawberries they condemn as different from what is ordered in their Work. This is the Rule by which they judge of right and wrong. We direct it ſo, becauſe more ſucceſsful.

The planting Beans in *Auguſt*, they affirm to be wrong: But they have not try'd it, nor will they ſtay to ſee how we ſhall order them to be manag'd: it is a new Culture propos'd by Col. *Stevenſon*, whoſe Name ſhould ſilence Cavils; and when they ſee, in our ſucceeding Numbers, how we treat them, they will find it cannot fail of Succeſs.

For compleating the practical Part, we have, beſide the authentic Papers of Mr. *Hale*, the Communications of ſeveral eminent Gardeners, whoſe Names will be publiſhed in the general Title.

With Reſpect to *Language*, we imagine the beſt Style is the cleareſt. *Take and rake your Walks*, ſays their Author. Take them into the Kitchen or the Stable, rake them, and bring 'em in again. To theſe Figures we are Strangers.

They accuſe us of borrowing from their Work, but in this they miſtake. We have the Books from whence theirs has been taken; and where what they contain is right, we join with them: for the right Culture of a Plant will be the ſame, whoever delivers it.

Our Papers of Mr. *Hale*, they ſay, we mean ſhould paſs for Works of Dr. *Hales*. That is impoſſible; for he is quoted in the Book. Who Mr. *Hale* was is well known, and the Ignorance of their Author ſeems affected. He would have been more celebrated, had his Modeſty permitted him to publiſh his Writings in his Life: and his Executors are ready to avouch for us their Authenticity.

Laſt comes the Article of Madder. In this *Linnæus* is ſaid again to be miſtaken. The Culture we propoſe is on the Principles of Mr. *Tull*, which their Author ſeems not to underſtand. Whether the four-coulter'd Plow does not cut deeper than a Foot. See in Mr. *Tull*.

This Plant gives another Inſtance of the Conſequences of a miſtaken Culture. Their Author, who is as well vers'd as any Man in the ordinary Methods of managing Herbs, never ſaw the Seeds of Madder. *Linnæus* had ſeen them; for he deſcribes them in theſe Words: *Semina ſolitaria ſubrotunda umbilicata.* Linnæus, Gen. 99. To *Ray* they were familiar: *Semina ſuccedunt rotunda.* Ray, Hiſt. V. I. p. 480. And not leſs to *Tournefort: Calyx abit in fructum ex gemellis baccis ſucculentis conſtantem ſemine fœtis, ut plurimum umbilicato.* Tournefort, Inſt. V. I. p. 113. To theſe we are to add one Authority which will ſurprize the Reader more than all. *The Flower-Cup afterward becomes a Fruit, compoſed of two juicy Berries joined together, containing Seed for the moſt Part hollowed like a Navel.* MILLER'S GARDENERS DICTIONARY, Article *Rubia*.

The juſt Concluſion from this is ſo ſevere we have not the Cruelty to inſert it.

We are ſenſible, from many Trials, Madder never will reach Maturity in the uſual Way of Culture; but in ours, the Seeds ripen ſo abundantly, that if the Stalks be not cut down, the Roots will be exhauſted to ſupply them: this being the ultimate End of Nature in the Growth of all Plants.

We had been us'd to look on the Author of the Gardener's Dictionary as a modeſt, candid, and ingenious Man; and we are ſorry for his own Sake (for, being anſwer'd, it can *do us no Harm)* that he ſhould ſo raſhly ſacrifice a valuable Reputation.

What we have ſaid of the Imperfections of his Work, compar'd with what we know of them, is little; but we have no Deſire to build our Succeſs upon another's Ruin. Let the Republication of it make the beſt Way it can into the World: with the Reception of ours we have Cauſe to be ſatisfy'd, and we are thankful.

‘In the *Seminary*, he directs the Planting Cuttings of *Evergreens* and *hardy Shrubs* at the ſame Seaſon. How agreeable to the Practice of the moſt experienced Gardeners, we need only appeal to every one who has the leaſt Skill in that Art.’ *Propoſals for* Miller'*s Gardener's Dictionary.*

September. ‘The beginning of this Month you may plant Cuttings of Laurel in ſhady Borders, obſerving to water them frequently in dry Weather, which will promote their taking Root; for, at this Seaſon, there is little Danger of their growing, provided they are duly watered.

‘You may alſo plant Cuttings of Honey-ſuckles, Gooſberries, Currants, and ſeveral other hardy Trees and Shrubs, which will grow from Cuttings; for at this Seaſon they generally ſucceed better than in Spring.’ Miller'*s Gardeners Calend.*

T. OSBORNE and J. SHIPTON,
J. HODGES, T. TRYE,
S. CROWDER, and H. WOODGATE.

EDEN:

A

COMPLEAT BODY of GARDENING.

* * *

NUMBER VI.

For the Beginning of *OCTOBER.*

* * *

SECTION I.

FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

1. *Globular-flower'd* GOMPHRENA.

Octob.

Pl. VI. Fig. 1.

A Senſe of the Elegance in this ſingular Plant, has made it univerſal in our Gardens; where it glows at this Seaſon with its full purple, carrying all the Marks of Health, when the Generality of the Vegetable Beauties are decaying.

Its Name among our Gardeners is the *Globe Amaranth.* The common Writers call it *Amaranthoides*; and ſome with us, the *Everlaſting Flower.* This Name has been given it from the Time the Flowers will retain their Luſtre. The *French* have call'd it, for the ſame Reaſon, *L'immortel*, The never-dying Flower.

Names form'd from thoſe of other Plants, with which ſuch as call'd by them are thought to have ſome Reſemblance, are juſtly rejected in the preſent improv'd State of Botany; therefore the former Denominations of this Plant, *Amarantho affinis*, and *Amaranthoides*, are diſus'd, and it is diſtinguiſhed by a Name appropriated to it, and given to no other Genus; this is *Gomphrena.* By way of Diſtinction from the other Species of the ſame Genus, LINNÆUS calls this, *Gomphrena caule erecto foliis ovato lanceolatis, capitulis ſolitariis pedunculis diphyllis:* that is, upright *Gomphrena*, with pointed oval Leaves and ſingle Heads, with two-leav'd Pedicles.

Octob.

Thoſe who are not acquainted with the Nature of our Science, will exclaim or ſmile on reading ſuch a Name; but they are to be told, its Length is needful to diſtinguiſh the Species from all others; and that it has its Merit with the Prolixity, for it contains an abſolute Deſcription of the Plant. Ours may be ſhorten'd from the Particulars contain'd in this.

The Root is fibrous, and the Plant riſes to two Foot in Height. Its Stalk is full of a ſnow-white Pith, branched, round, and of a pale whitiſh Colour, often ſpotted with Purple near the Ground, naturally purple at the Joints, and covered with a light white Hairyneſs.

The Leaves are plac'd naturally in Pairs at diſtant Joints; but luxuriant Nature, when we give the Plant good Culture, often exceeds that Number. They are ſupported on ſhort Foot-ſtalks, and they are whitiſh on the upper Side; and on the under of a light pale green.

The Flowers are numerous, and of an uncommon Luſtre: they terminate the Branches in round Heads; and often others reſt in the Boſoms of the Leaves.

Theſe Heads are form'd of glittering purple Scales, firm to the Touch, dry, oblong, and pointed; and from among theſe Scales burſt out the proper Flowers: they are little and white; and their Form is ſtarry. The Seed follows. One after every Flower, wrap'd in a Bed of ſnowy Cotton.

What is uſually underſtood by the Name of the Flower of this Plant, is the whole globular Tuft or Head. 'Tis this that has obtained for it the Names of Never-dying, and the Everlaſting Flower: the dry Conſtruction and poliſh'd Surface of the Scales, keeping them in their original Brightneſs a long Time.

The Student having thus far examined the general Form and Structure of the Plant, deſires to know its Claſs in the LINNÆAN Syſtem: for this he muſt conſult the ſeparate Flowers, as well as the general Head.

Let him pull to Pieces one of theſe Heads, and he will find each little Flower plac'd in its diſtinct Cup. This is flatted, and compos'd of three little Leaves; two of the three are hollow'd, and have their Sides convergent; the third is leſs, and is plac'd ſide-ways.

The Body of the Flower, form'd of a ſingle Petal, is divided to the Baſe into five Segments: theſe are ſharp-pointed, and they give the ſtarry Figure.

Within the Body of the Flower he will perceive a tubular Piece of a Cylindric Form, and equal to the Hollow of the Flower in length: this is a ſingular Part, and it appears the more ſo from the Smallneſs of the reſt.

We have inform'd him, that whenever he finds in a Flower ſome Part beſide the Petals, and the Organs of Fructification, it is the *Nectarium.*

This little Flower has it ſo large and ſo conſpicuous; and, when examined near the Edge, it is found to be divided regularly by ten Denticulations.

The Mouth of this tubular Part is clos'd by a complicated Button; but this, tho' placed in it, does not belong to it. 'Tis compos'd of five diſtinct Parts, and theſe are the Antheræ of the Flower. They ſtand upon five Filaments, which are almoſt too ſmall for Sight, and riſe within the Neck of the *Nectarium.*

Theſe are the five Threads which give the Claſs of the Plant. Tho' ſmall they are regular; and therefore it is to be refer'd to its Place, according to their Number: and the Student remembring what has been ſaid already on that Head, will know *Gomphrena* to be one of the *Pentandria*, the Fifth Claſs of LINNÆUS.

Within the Flower, and below the Filaments, is placed the Rudiment of the future Seed. From this riſe two Styles; therefore the Plant is one of the ſecond Section, the *Digynia.*

It is a Native of the *Indies*, but it ſucceeds perfectly well in our Gardens, with the common Culture of our annual Plants.

We propoſe Improvements, not retailing antient Imperfection; and we ſhall tell the Gardener how he may raiſe his *Globe Amaranths*, as we ſuppoſe he will continue to call them, to a larger Size, and cover them with much more numerous Flowers: how he ſhall ſtain, with living Purple, the Joints of the Stalk, and ſpot its Baſe with Crimſon.

Culture of the GOMPHRENA.

The bringing this Plant to Perfection depends upon three Articles; 1. The having good Seeds. 2. The getting the Plants forward early in Spring; and, 3. The giving them their Summer Growth in a good Compoſt.

The ſecond Article our Gardeners perform tolerably well, for it is mechanical: in the firſt they are negligent; and of the other altogether ignorant.

It is therefore no Wonder that a Plant, which aſtoniſhes the Eye with many hundred Flowers at once, ſpread over its diffus'd Branches in its native Climate, here raiſes ſcarce more than a ſingle ſickly Stem, and with Difficulty throws out a Dozen or two of Flowers.

Its Beauty is ſo inherent, that Ignorance and Neglect together, cannot deface it utterly: but all the curious Eye will diſcover from what it diſcloſes in the common, will be to what Perfection it may be brought by better Management.

The Seeds are of two Kinds, thoſe brought from the *Eaſt-Indies*, and ſuch as are produced here.

The firſt are preferable highly. They are procur'd from healthful Plants; the others are, at beſt poor, and are often ill ripen'd. Late Sowing, or careleſs Expoſure at the Time of their Ripening with us, frequently renders them of little Value.

Firſt then let our curious Gardener get his Seeds from the *Eaſt*; they are common there, and our Trade thither renders it eaſy to obtain them freſh enough for ſowing.

Theſe Seeds being obtain'd, in the Beginning of *February* let a Hot-Bed be prepar'd for their Reception; and at the ſame Time an artificial Soil made for them when they come to be planted out. Our Gardeners ſet them in the Borders as they chance to be, damp or dry, light or heavy; and they ſucceed accordingly. The true Method is this.

Throw in an open Spot of Ground two Loads of common under-turf Earth, taken from an upland Paſture, where the Soil is dry and ſomewhat ſandy, but not barren; add to this a Load and half of common Garden-Mould, that is, Earth enriched with rotten Dung: and add afterwards two Buſhels of clean Coal-aſhes, and a Load of Sheeps-Dung picked freſh from a Common.

Dig and ſtir all theſe well together, and leave them to the Sun, Air, Rains, and Dews; take Care no Weeds grow on the Heap to exhauſt its Virtue; and thus leave it till it is wanted.

Let the Hot-Bed be well covered with common Mould. Sow the Seeds, by ſcattering them from the Hand thinly and evenly, and ſift over them half an Inch of fine Mould. Cover the Bed cloſe, and take Care it is kept warm.

Here leave them to Nature, and patiently expect their ſhooting. They are idle Writers who preſume to fix a Day for the Appearance of the Plants. This depends on Accidents, never twice the ſame; the Newneſs of the Seeds, the Heat of the Bed, the Depth of Mould, and the Moiſture of the Dung.

When they appear, they will ſoon get Strength

Octob. and Bigneſs, and a new Hot-Bed muſt be prepared for them. Let this have ſeven Inches Depth of Mould, for the Roots pierce deep, and Dung hurts them. On this Bed draw Lines at five Inches Diſtance, length-way and croſs-way; and in the Center of each Square, made by theſe Lines, place one of the Plants.

Raiſe them gently from their firſt Bed, not with a Finger, as ſome direct, but with a hollow Trowel, and leave the Holes open to receive them.

Set them upright, fix the Mould well about them, and give them a very light and gentle Watering.

Give them Air as there may be Occaſion, and repeat the Waterings. They will thus grow up briſkly; and at the End of about four and twenty Days they will be ready for their third Hot-Bed.

This muſt be larger than the others, and covered with a deeper Frame. Its Mould muſt be nine Inches thick, and the Heat moderate.

Here the young Plants muſt be ſet at about eight Inches Diſtance; water'd at firſt, and afterwards expos'd gradually to the Air.

It will now be Time to prepare the Border for them. Let the artificial Soil, already directed, be laid a Spade and half deep, either in an entire Border, or in the Places in other Borders where the Plants are to ſtand. Let them be carefully removed into this, after Sun-ſet, in a dripping Seaſon, and ſhaded till they have taken Root. Octob.

Gentle Waterings will from Time to Time be needful, and they will thus riſe to a Yard in Height, ſpread out forty or more Branches from a Root, and be covered with a Profuſion of Flowers, larger and of a finer Colour than thoſe rais'd any other Way.

This Care is worth employing, becauſe of the Duration of their Flowers. They will not only be full of Beauty in the Ground, all this and Part of the ſucceeding Month, ſo long as Froſts are gentle, but being gather'd in their Prime, they will retain their Beauty a vaſt while, and ſerve in the Places of artificial Flowers, in Ornaments, Deſerts, and all the other Uſes of thoſe Things, exceeding every Thing, that has come from the Hand of Art, in Beauty.

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2. OVAL-LEAV'D ROSE HIBISCUS.

Pl. VI. Fig. 2. We have recommended to the Attention of the Curious, in a preceding Number, a Species of *Hibiſcus*, call'd, from the Multiplicity of Petals and Bigneſs of the Flower, the *China Roſe*.

This which we here propoſe to their Regard, is little inferior to it in Luſtre; and from the ſame Cauſe has been alſo called the *Roſe of China*.

Breynius calls it the Tree *Alcea*, of *Java*, making it a Kind of Vervain Mallow.

Linnæus juſtly ranks it with the *Hibiſcus*, and names it, *Hibiſcus foliis ovatis ſerratis acuminatis glabris caule arboreo*: that is, Shrub *Hibiſcus*, with ſmooth, ſharp-pointed, oval, and ſerrated Leaves.

It riſes to ſix or eight Foot in Height a ſpreading Shrub.

The Root is fibrous and inſipid; the Trunk is covered with a brown rough Bark: the younger Shoots are grey and ſmooth, and their inner Bark is green.

The Leaves are numerous, and of a handſome Shape; they have long Foot-ſtalks, and their Colour is a pale but elegant green; they are groſly ſerrated at the Edges, and ſoft to the Touch.

The Flowers are very large and beautiful; they terminate the Branches, and their Colour is a fine ſtrong red: they are naturally double, and the numerous Petals which compoſe them, are curl'd and wav'd at the Tops and Edges.

Each Flower has a double Cup. The outer whitiſh, and the inner green. The internal Part reſembles that of the *Mutable Hibiſcus*; the Filaments being connected in the lower Part, ſo as to form a kind of Cylinder, and their Buttons numerous; theſe are yellow, and the Diviſions of the Style are crimſon.

The Structure of theſe Organs ſhews it to be of the ſame Claſs with the other *Hibiſcus*, and of the ſame Section; it is another of the *Monadelphia Polyandria*. The Filaments being connected at their Baſe into a ſingle Body, and their Buttons numerous.

This we have explain'd under the before-nam'd Article, and need not repeat it here.

The Shrub is a Native of the *Eaſt-Indies*, and is one of the fineſt and moſt valu'd of their gay Productions. The Flowers are not leſs conſpicuous for their Number, than their Size and Colour, and they there cover the Branches throughout all the Year.

With us it muſt not be expected to attain this Degree of Perfection; but we may raiſe to ſo much Excellence as to eclipſe moſt of our Stove Plants.

Its Culture needs not be ſet down at length, for it muſt be the ſame with that of the other *Hibiſcus*; we therefore refer for this, as for the Explanation of its Claſs to our ſecond Number. When it ſhall have been once eſtabliſhed among us, the Method of propagating it muſt be by Layers; for it very rarely ripens its Seeds in the *Indies*, and cannot well be expected to bring them to the due Perfection here.

This is one of the Species we recommend to be introduced as an Addition to our common Stove Plants. We have been long accuſtomed to ſee its Figure in the China-Paintings; and ſome have thought it, as they did the other, the Product only of the Deſigner's Fancy; but a better Knowledge of Things has now ſhewn us that it is Nature; and there are at this Time ſeveral Plants of it riſing in our Gardens.

3. AFRICAN GOLDEN SAGE.

Pl. VI. Fig. 3. We lay here before the Reader a Shrub that was early introduced into the Gardens of *Holland*, and that deſerves a Place in every one of ours, where either Singularity or Beauty are regarded.

The Gardeners Name for it is *Shrub Sage*, or *Yellow African Sage*. COMMELIN, who raiſed it in the *Amſterdam* Garden, calls it, *Salvia Africana frutefcens folio ſubrotundo glauco flore magno aureo:* and LINNÆUS, in his *Hort. Cliff.* and VANROYEN, in his *Lugd. Salvia foliis ſubrotundis integerrimis baſi truncatis dentatis:* that is, Sage with rounded entire Leaves, truncated at the Baſe and dented.

It is a wild and irregular ſhrubby Plant, of a Yard or more in Height. The Root is fibrous, and the Trunk is brown.

The young Shoots are ſquare and green; but as they grow older they loſe that Shape and Colour, becoming round and of a pale brown.

The Leaves are numerous, and they ſtand in Pairs, crowded with Rudiments of young ones. They are ſhort, broad, of a thick firm Subſtance, and a blueiſh green.

The Flowers are large, conſpicuous, and beautiful. They are diſpoſed in ſhort Spikes on the Tops of all the Stalks; and their Colour is a ſhining gold yellow. The Cup is large; and in this, after the Flower is fallen, the Seeds ſtand naked.

This is the general Aſpect of the Flower, into the internal Part of which the Student is to look to know of what Claſs it is in the LINNÆAN Syſtem.

Searching for the Filaments he will find them only two: and the Diſpoſition of theſe being equal, he knows, from the general Rules laid down already, that it is by their Number he is to judge of its Place in the modern Syſtem. The ſecond Claſs of LINNÆUS is named *Diandria*; that Term expreſſing Plants in whoſe Flowers the male Parts are two.

The Structure of theſe Filaments is very ſingular. Each is ſplit into two Parts, which ſtand wide aſunder: one of theſe is longer, and lies under the upper Lip of the Flower; and on this Part of each Filament ſtands the Anthera or Button, not on the other; that having only an obtuſe Appendage.

Theſe Buttons are the Part which ſerve for the Impregnation of the Seeds; theſe therefore are to be regarded; and thoſe Portions of the Filaments which carry them; not the other, in an Enquiry after the Claſs of the Plant. But now we have taught the Student not to be miſled by their Form, we may explain a farther Singularity relating to them.

Mr. RAY, and many other Writers, have brought into one Claſs all the Plants which have labiated Flowers; that is, ſuch as have, like this of Sage, the Flower of Lavender, and the like, a Diviſion into two Parts, ſomewhat reſembling two Lips.

LINNÆUS, who has not followed theſe common Marks in his Diſtribution, but founds his Method on the internal Parts, claſſes theſe labiated Kinds in general among his *Didynamia*, or thoſe in whoſe Flower two Stamina or Filaments are longer, and have more Efficacy than the others.

Thus in the Flower of Lavender there are four Filaments, two of which are longer than the other two; and ſo almoſt univerſally among the labiated Plants.

Sage is an Exception to this Rule, and has, as we perceive in the preſent Inſtance, only two Stamina; but the Uniformity of Nature in the ſmalleſt Parts is very obſervable, even in this Variation; for Sage, which has only two Filaments in the Flower, has thoſe ſplit ſo that each ſeems double; one of the two Branches of each is ſhorter than the other, and has, inſtead of a regular Anthera, only a uſeleſs Appendage.

Culture of the AFRICAN GOLDEN SAGE.

This is one of thoſe ſhrubby Plants that bear our Summers in the open Air, but require the Shelter of a Green-houſe againſt the Severities of Winter.

We have it in ſome Gardens; but the indifferent Appearance it makes, flowering ſeldom and that poorly, and being uſually covered with dead and decaying Leaves, occaſions it to be leſs regarded than it deſerves.

This is not the Nature of the Plant, for it is luxuriant and lively in its native Soil; nor is it limited to that Climate for enjoying its Vigour; it is ſtrong and healthy in the Gardens of *France*, and flowers in *Holland* all Autumn, as well as in its native Country.

Our Climate does not deny the ſame Advantage, but our Gardeners forfeit it by an unſkilful Culture: in the Place of which we ſhall here propoſe a better, not from Imagination, but ſuch a one as is founded on Reaſon, and confirmed by the Experience of the *French*, and more of the *Dutch* Gardeners.

The Plant may be raiſed from Cuttings, or from Seeds. Moſt Gardeners prefer the former Method, becauſe eaſier, though they know the latter to be better.

They take the Cuttings from a ſtarved weak Plant, for their Pots afford no better, and they plant them in a lean and hungry Soil.

By this Means the Plant, which had its Origin in Weakneſs, is ſtarved into Decay; and at beſt produces a few ſcattered and faint Flowers: continuing weak for Want of Nouriſhment, and often infecting the neighbouring Herbs with its Decay.

This, like our ill Succeſs in many other Exotics, is owing to the ill Inſtruction our Gardeners receive from Writings which they think authentic as the Goſpels; and which, though we ſhall not wantonly or ill-naturedly depreciate, yet when the Succeſs of Gardening is at ſtake we ſhall not ſpare.

The Method to raiſe this Plant to its Perfection is this.

Procure Seeds from *France* or *Holland*, where the Plant ripens them well; or, if it can be conveniently done, from the *Cape of Good Hope*, where it is a Native.

Sow theſe in Spring, upon a moderate hot Bed; and at the ſame Time prepare for them the following artificial Soil.

Lay in a Heap two Barrows of Mud from the Bottom of a Pond; one Barrow of mellow Cow-Dung, and half a Barrow of common Earth, taken from under the Turf in a dry Paſture.

Sprinkle this Mixture with a little Brine, and let it lie to mellow.

When the Plants are riſen, water them very carefully and gently at times; and when they have ſome Strength, remove them into a ſecond, and afterwards into a third hot Bed, according to the common Method in that Culture.

When the Summer is advanced, and the Plants have good Strength, prepare ſome Pots for them.

Let theſe be large; and put into them ſome of the artificial Soil.

Set in each Pot one Plant: fill up with more of the ſame Soil, and ſettle the Earth to its Roots by a gentle Watering.

Set theſe Pots under a warm Wall, and draw a Mat over them at a Height above the Plants.

Keep them ſhaded till they have rooted well, and water them frequently.

Then ſet them in a warm and well ſheltered Part of the Garden, among other Exoticks that bear Expoſure.

Many of the Plants will thus flower the firſt Year, and all of them the ſecond.

They muſt be conſtantly watered while they ſtand expoſed, and particularly when they are about to flower.

Toward the End of *September* the Buds will appear, and good Watering will bring them quickly forward.

At the Approach of Winter they muſt be removed into the Greenhouſe; and they muſt not be ſhut up there too cloſe.

In the ſucceeding Summer they are to be ſet out with the other Exoticks, and treated in all Reſpects like them.

By this Means we can aſſure the Gardener he will obtain this Plant in all its Elegance; and gain a Reputation above others, who follow leſs proper Directions.

Next to the Error of raiſing the Plant from bad Cuttings, the Soil that is commonly uſed for it prevents its Growth.

Mr. Miller, the beſt Inſtructor the Gardeners have hitherto had, orders it to be planted in Pots filled with *light ſandy Earth**: but Nature and Reaſon direct exactly the contrary; and Experience ſhews this is a Soil in which it cannot thrive.

Moſt of the other Kinds of Sage grow naturally in a dry and barren Soil, therefore they will thrive in it when planted; but 'tis otherwiſe with this.

It is a Native of the *Cape*, and there grows by the Sides of Brooks that dry up in the Summer†: in theſe Places it finds a rich and mellow Soil, and ſuch we are to give it.

Of this *Commeline*, who writes its Hiſtory, informs us, and other Writers confirm it; and upon ſuch Knowledge alone can be founded its true Culture: but this needful Knowledge that Author could not attain, for *Commeline* wrote in *Latin*; and the Want of a liberal Education has ſhut from him the Stores of Knowledge.

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* Gardeners Dictionary, Article *Salvia.*

† *Juxta amniculos æſtate ſiccos.* Comm Ib. a. 183.

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4. ÆTHIOPIAN SHRUB TANZY.

Pl. VI. Fig. 4.

We have endeavoured on many Occaſions, and ſhall on many more, to introduce univerſally into the Gardens of the Curious, Plants whoſe Leaves have a peculiar Beauty, as well as thoſe whoſe Grace is in their Flowers. This is an Inſtance.

There is a pleaſing Brightneſs in the Flower, though it wants Dignity; but the Value of the Plant lies in the fine Wildneſs of Form, and in the eaſy Foldings and Diviſions of the Leaves.

Authors have been divided what to call it. *Van Royen* rightly makes it a Species of Tanacetum. In *Commeline* it is alſo deſcribed as one of the ſame Genus, but others have named it an *Ageratum.*

This Confuſion has been owing to the uncertain Characters by which thoſe ſeveral Genera have been eſtabliſhed; for they have been ill choſen. Linnæus has defined them better: none has deſcribed, ſo well as that Author, theſe Genera; indeed ſcarce any other has underſtood them.

He refers it to the Tanzy Kind, to which it evidently belongs, and calls it in his *Species Plantarum*, p. 884, *Tanacetum foliis pinnatifidis laciniis lanceolatis obtuſiuſculis integerrimis*: Pinnatifid-leav'd Tanzy, with lanceolated, obtuſe, and undivided Segments.

This Author had called it, *Tanacetum foliis pinnatis*, in his *Hortus Cliffortiana*; but farther Obſervation ſhewed him that was leſs proper, the Leaves not being compleatly pinnated, though reſembling that Character in their Diviſion.

It is a robuſt and ſpreading Shrub; the Root is divided, brown, ſpreading, and full of Fibres.

The Stem is woody, round, covered with a rough brown Bark, and full of Branches.

Theſe expand every Way with a graceful Irregularity, unleſs unſkilful Culture maims them: and they are round, weak, and green, while young.

At this Period they are alſo full of Leaves; but as they grow older they loſe their Freſhneſs, and the Leaves drop off.

Even this is an Article of Beauty in the Plant, when well kept; for theſe naked Branches ſerve as a Foil to the full-tufted Tops, and younger Shoots.

The Leaves are of a ſingular Form and Beauty: they are oblong and large, and are divided with great Regularity down to the middle Rib by numerous Inciſions.

Their Colour is a fine bright green, and the Tops of the Shoots are whitiſh and downy.

This gives a very pleaſing Variation at all Seaſons; and when the Flowers burſt forth they add to it greatly.

They decorate the Tops of the Branches in numerous ſpreading Tufts, and their Colour is a bright yellow.

The Seeds follow, but theſe rarely ripen in our Climate.

This is the general Form of the Plant, and the Diſpoſition of its Flowers: to underſtand its Claſs and Place in the LINNÆAN Syſtem, theſe are to be examined with a great deal of Attention.

We have made our Student familiarly acquainted with the eaſier Diſtinctions of this Author's Method; and upon the Foundation of that Knowledge, we now ſhall venture to lead him into the Depths of the Science.

The Plants, whoſe Claſſes we have inveſtigated hitherto, produce their Flowers whether ſingly, or in Cluſters, yet in a regular Manner, one like another; or if unlike, (as where they are of diſtinct male and female Kinds) they are ſeparated either by growing upon diſtinct Plants, though of the ſame Species; or upon ſo remote Parts of the ſame Plant, that they raiſe no Confuſion from their Mixture. But we here enter on a different Aſſortment.

This Plant, and ſeveral others to be hereafter deſcribed, produce Flowers different in their internal Structure, but ſmall and cluſtered together.

The whole ſpreading Tuft of Flowers, which terminates a Branch in this Plant, is formed of ſeveral diſtinct little Heads, and each of theſe of many Flowers.

Theſe Heads are ſupported ſingly upon Diviſions of the Stalk; and each Head contains theſe numerous Flowers in one common ſcaly Cup.

Of theſe, ſome contain both the male and female Organs of Generation; and others only the female.

Theſe are not ſcattered at random, one among another; but Nature, wonderful in all her Works, has placed them regularly.

Thoſe Flowers in each Head which contain both Filaments and Styles, that is, both male and female Parts, occupy the middle Part of the Tuft; and thoſe which ſurround them, and form the outer Circle of the Head, contain only the female Parts or Styles; having no Threads or Antheræ.

This the Student will not find difficult to underſtand: and to render it more eaſy, it will be proper he lay before him a flowery Head of any Plant of this Kind, comparing what he ſees with what he reads.

Having made himſelf acquainted with this, he underſtands the Term *Polygamia*; the Word LINNÆUS has invented to expreſs this Mixture of hermaphrodite and female Flowers.

This Term is founded, like his other, in the *Greek*, and formed of two Words, expreſſing that the Impregnation of the Seeds is performed; or, as he phraſes it, the Nuptials are celebrated different Ways; the Hermaphrodite Flowers in the Centre, producing Seeds ripened by the Duſt from the Antheræ in the ſame Flowers; and the female Flowers in the Rim ripening Seed alſo, from the Impregnation of the Duſt in the Antheræ of the central Flowers.

This, though ſo complicated and ſo eſſential an Article, is but the Diſtinction of an Order or Section; not of a Claſs.

We have named it here, that the Student may know in what Part to look for thoſe Flowers; which being perfect afford the Marks of the claſſical Diſtribution.

Let him for this Purpoſe examine one of the ſmall Flowers, ſeparated not from the Edge, but from the Diſk or Middle of a Head. In this he will find five very ſlender Filaments, with their Antheræ.

Let him not be haſty to refer the Plant therefore to the pentandrous, or fifth Claſs.

He will perceive on nearer Examination, that the Antheræ, or Buttons, do not tremble on their Filaments, as in moſt Flowers, detached and free; but that they unite together, and form a Cylindrick Body.

This is the Mark of the nineteenth LINNÆAN Claſs, called from this Union Syngeneſia; Plants, whoſe male Parts perform their Office of Impregnation jointly or together.

This Union of the Antheræ, therefore, determines the Claſs of the Plant; and the Student is to remember, that wherever he ſees them thus united, be their Number what it will, the Plant belongs to the Syngeneſeous Tribe.

Under this claſſical Diſtinction, the Plants which are very numerous are ranged in ſeveral Orders.

Of theſe the Polygamous Kind is one.

This we have thus far explained to the attentive Reader; and ſhall occaſionally in the ſame Manner, enter into the Particulars relating to the others, when we treat of Syngeneſous Plants belonging ſeverally to thoſe Sections.

Octob.

Culture of the ÆTHIOPIAN TANZY.

This, though a Native of a much warmer Climate, will bear the Summers expos'd in our Country, and only needs the Shelter of a Green-houſe in the Winter Months.

It rarely brings the Seeds to Perfection with us, and it is eaſily propagated by Slips, for which Reaſon we ſhall direct the Gardener to follow that Method. To this Purpoſe, let him, in the Beginning of *May*, dig up a Border in a ſhelter'd Place; where the Earth is rich and mellow.

Let this lie ten Days, to imbibe the Dews after its digging, and to ſettle; and then let him prepare it for the Reception of the Slips.

Let Lines be drawn length-wiſe and a-croſs of this Bed, each Way at a Foot diſtance.

In the Centre of each of the Squares, let a Hole be open'd, and the Mould laid up at its Side.

This being prepar'd, let the Slips be taken off from a flouriſhing Shrub, and planted with Care.

Octob.

Let the Earth be drawn up about them, and let them have a gentle Watering: then cover them with a Mat, ſupported to a due Height not to cruſh them; and thus they are to be manag'd till they have ſhot good Roots.

It will then be proper to remove them into Pots, that they may have the Advantage of good Sun for the Remainder of the Summer, and Shelter in the Winter.

Let the Pots be large, and let them be fill'd with a Mixture of three Parts Garden-Mould, and one Part Sandy Earth, from under the Turf of a Paſture.

In this let them be planted with the ſame Care as in the firſt Bed; and in the ſame Manner water'd and ſhaded.

When they have well fix'd themſelves in the new Earth, let them be ſet among the other Exotics during the reſt of Summer; and when they are remov'd into the Green-houſe, let theſe go with them, ſharing the ſame Care.

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5. MARVEL OF PERU.

Pl. VI. Fig. 5.

NOthing need be ſaid in Praiſe of this Plant, which is already familiar in our Gardens, and deſerves to be continued there: but we have ſome ſhort Hints to lay before the practical Gardener with Reſpect to its Culture and Management, which encreaſing its Beauty, will enſure it of keeping its Place.

Our Gardeners, beſide its Name of *Marvel of Peru*, in ſome Places call it *Marvel of the World*.

The common Writers have called it, after CLUSIUS, *Admirabilis Peruviana*, and *C. Bauhine* makes it a *Solanum*.

TOURNEFORT has diſtinguiſhed it by the Name *Jalapa*; and VAN ROYEN by that of *Nyctage*.

LINNÆUS has but little alter'd the old Name of CLUSIUS, he calls it *Admirabilis*: and ranking all the Sorts of it which TOURNEFORT has erroneouſly nam'd, as Species; and MILLER has unluckily copy'd from him under the ſame Denomination, as Varieties, he adds no Diſtinction.

The Plant is a Yard high, and ſpreads irregularly into numerous Branches. The Root is long and thick, and has many Fibres; the Stalk is jointed, and the Leaves are placed in Pairs. They are oblong, broad, and not divided at the Edges. Their Colour is a deep fine green.

The Flowers are very numerous and full of Beauty. Some terminate the Stalks, and others riſe from the Boſoms of the Leaves and Branches. They are broad, expanded, and of various Dyes, not only on different Plants, but often on the ſame.

The natural Colour is a tawny yellow; but from this they vary into the deepeſt purple, and the fainteſt Fleſh-colour.

Theſe are their eaſieſt and moſt common Changes; but we alſo ſee them ſometimes of a pure ſnow-white, and ſometimes variegated in a moſt elegant Manner with theſe ſeveral Colours, purple and white, purple, Fleſh-colour and white, or all theſe Colours, and the original yellow. Hence the Varieties which miſtaking Writers have call'd Species; and hence the Luſtre and Beauty of the Plant.

There is, though theſe Writers do not know it, a certain Rule for determining what are Varieties and what diſtinct Species among Plants; this is by ſowing the Seeds.

If the Seed of one will produce another Kind, that other is a Variety. If the Seed a Plant ripens will produce always its like, then it is a diſtinct Species.

By this Teſt all the Species, as they are call'd, of *Marvel* of *Peru*, have been found to be Varieties only; as have alſo the two common *Larkſpurs*, which ſome have thought it Knowledge to pronounce diſtinct. LINNÆUS has been cenſur'd for aſſerting otherwiſe; and the Judgment of common Gardeners, has, by a Gardener, been call'd up againſt him.

LINNÆUS is not without his Errors; for no Man is or will be; but a Perſon of his Rank in the Science, ought to be very much above the Cenſure of theſe Perſons, whoſe utmoſt Merit it will be to underſtand his Writings, when they ſhall be explained in their own Language.

The pointing out the Errors of this Author, may be uſeful to the World, becauſe being his they will be dangerous; but this can only be done by thoſe, who, like himſelf, have trod the myſteſterious Paths of learned Science: 'tis not in others to diſcover them.

We gave the Reader, in the laſt Inſtance, a Plant whoſe Claſs was not eaſy to be determined by thoſe who are in their Studies; here we propoſe to him one in which it is conſpicuous, and familiarly diſcovered.

Let him take off a Flower of *Marvel of Peru*, and he will find it elegantly form'd of a ſingle Petal. Its Cup is ſmall, and compos'd of five little Leaves. The Flower is tubular and ſlender at the Baſe, and ſpreads out into a broad folded Rim, where it is divided lightly into five blunt Segments.

There is a *Nectarium*, but it is ſingularly plac'd below the Petal. In the Center riſe five Filaments, each crown'd with its proper Anthera. Theſe ſhew the Plant to be of the Fifth Claſs of LINNÆUS, the *Pentandria*: and the Style which riſes ſingle among them, ſhews alſo that it is one of the *Monogynia*.

Culture of the MARVEL OF PERU.

This beautiful Plant is a Native of the *Eaſt* and *Weſt-Indies*; and, with us, being rais'd upon a Hot-Bed in Spring, in the Manner of the tender annual Plants, it will, like them, bear the open Air of Summer, and flower very finely.

We ſhall not ſwell theſe Sheets, or treſpaſs on the Reader's Patience, by repeating here at large the Culture of our tender annual Plants, which we have given at large in the preceding Numbers, and which every Gardener knows.

Inſtead of this dull Repetition, we ſhall remind the curious Raiſer of this Plant of two Things; the firſt is, that the Soil be prepar'd for them, by mixing Cow-Dung and Coal-Aſhes with the common Mould; the other, that they have every Day twice a little Water during the Time of their flowering.

Theſe Cautions will make the Flowers much larger than in the common Way; and will keep up a Succeſſion of them, till Froſts deſtroy the Buds: then the Stalk ſhould be cut down, and the Root ſoon after taken up, and kept in Sand till Spring.

6. YELLOW PHLOMIS.

Pl. VI. Fig. 6.

THIS, like the former, is a Plant ſo well eſtabliſh'd already in our Gardens, that we need not write to recommend it. We ſhall direct our Labours therefore to the explaining the Structure of the Flower, and improving the preſent Method of Culture.

Its vulgar Name is the Sage Tree; and by ſome it is call'd Sage Mullein: the common Writers call it, in the ſame Manner, *Verbaſcum ſalviæ foliis.* The Writers of more Accuracy, *Phlomis.* It is of a Claſs altogether different from *Verbaſcum*; and by this we ſee how idly they nam'd Plants, who had not regularly ſtudy'd Method.

LINNÆUS calls it *Phlomis foliis ſubrotundis tomentoſis crenatis involucris lanceolatis: Phlomis*, with roundiſh, woolly, crenated Leaves, and pointed Involucra.

It is a Shrub of five Foot high: irregular in Growth; but diſtinguiſhed by the peculiar whiteneſs of its Leaves; and by its great round Tufts of Flowers.

The Root is divided and ſpreading. The Stalks are numerous, woody, and brown. The Leaves toward the lower Part, are ſhort, broad and roundiſh: thoſe toward the Top are broad alſo, but ſomewhat oblong: they are irregularly wav'd and crenated lightly at the Edges; and they are white in Colour, and ſoft to the Touch.

The Flowers grow in an elegant Manner at the Tops of the Branches, in large round Tufts, and they are of a fine gold yellow, and of the labiated Form.

The upper Lip is very large and arched, and the lower is ſmall and divided into three Parts. When the Flowers are fallen, four naked Seeds appear in the Place of each.

To know the Claſs to which this Plant belongs, the Student muſt tear open a Flower; he will find in it four Filaments lodg'd under Covert of the upper Lip; and, of theſe, two are longer than the others: theſe are more efficacious in the Impregnation of the Seeds, and from them the Claſs is determined.

PHLOMIS is one of the *Didynamia*, that Term expreſſing thoſe Plants which have two Filaments more efficacious than the reſt.

The Plants of this Claſs are arranged by LINNÆUS under two Sections; and of theſe the one is compos'd of thoſe which have the Seeds naked, and this is call'd *Gymnoſpermia*; the other of ſuch as have them in a Capſule, and this is called *Angioſpermia.* PHLOMIS is one of the *Gymnoſpermous.*

Its Culture is by Cuttings, and they ſhould be planted in the Beginning of Summer. The next Spring they muſt be remov'd into their allotted Places; and their thriving will depend upon the Dryneſs of the Soil: one third Sand, and a little ſmall Gravel, ſhould be mix'd with Garden-Mould for this Purpoſe.

CHAP. II.

The Management of the Flower-Garden, for the Beginning of October.

THE Flower-Garden being the Seat of Amuſement, and affording ſomething to delight the Eye at all Seaſons, the Gardener muſt have two Points in View at this Time; the preparing the ſeveral Borders, for making their beſt Shew in the ſucceeding Months of Spring and Sum-

Pl. 6.

1 Globular-flowr'd Gomphrena.

2 Oval leav'd Rose Hibiscus.

3 African Golden Sage.

4 Æthiopian Shrub Tanzy.

5 Marvell of Peru.

6 Yellow Phlomis.

Octob. Summer; and the keeping them clean and decent, where they have no actual Beauty.

The Leaves of many of thoſe Plants which are to flower in Spring, will make a pleaſing Appearance, and give Variety in Autumn: of this he is to make the moſt, by keeping them in good Order, and clearing the Ground between them.

Whatever dead Leaves there are among the others, ſhould be taken off; and if any ſtraggle or fall irregularly, ſuch ſhould alſo be retrench'd.

When theſe Shoots, from the ſeveral Roots, are thus in Order, let all Weeds be taken from between them; and let the Ground be rak'd ſmooth where it is good; and refreſh'd with ſome rotten Dung and Pond-Mud, where it is poor and exhauſted.

There are other Borders in which nothing appears above Ground: theſe are ſuch as contain the Roots of thoſe Flowers, which are to be the Glory of the ſucceeding Spring.

All that can be done with theſe, is to keep them clean; therefore let this be done in the moſt perfect Manner. Let there not be ſeen upon them the Shoot of the ſmalleſt Weed; and take Care to preſerve that little Rounding we have ordered to be given them; that the Wet may not lodge in any particular Places to damage the Roots.

Though the Pride of Summer is over, and the Autumnal Flowers are beginning to decay, yet there are a few which will retain their Beauty, unleſs particularly ſevere Weather prevent it ſome Weeks longer.

Let the beſt poſſible Care be taken of theſe.

The *Starworts*, *Marvel of Peru*, and many of the other tender Annuals continue in flower.

To keep them in their Vigour, draw up the Earth about their Stems, pick off decay'd Leaves, water them daily; and ſtir the Earth at a Diſtance round their Roots.

This will keep them flowering ſtronger and longer than they would otherwiſe; and this will be farther promoted by cutting off the decay'd Flowers of ſuch as ripen their Seed eaſily, if it be not wanted.

This Care being taken of the Borders, under theſe three Directions the Walks and Edgings come into Regard.

The Gravel muſt be, from Time to Time, clear'd of Weeds; and when there is Wet, well roll'd, this will give it great Firmneſs: a very conſiderable Advantage for Winter walking.

Where there is Box wanting in the Edgings, let it be now planted; and in this we ſhall direct the Gardener to be more critical than moſt uſually are.

When any Part begins to decay, it very rarely recovers. The planting it a-freſh, takes very little Time or Trouble; and we therefore adviſe him, by all Means, to mend the leaſt Fault as ſoon as it appears.

The firſt Froſts often do a great deal of Damage to the Carnation-Plants; and there is no Part of the Gardener's Buſineſs more irregularly executed than the Care of them. Some leave them expos'd, in which Caſe many are loſt, and more are injur'd: others, in the Extreme of Care, keep them ſo Octob. cloſe, that they deſtroy or weaken them.

We ſhall, on this Occaſion, lay before the Public a Method of preſerving them from Damage, communicated in a Letter from a worthy Correſpondent, to whom we have been much indebted for his Communications to our HUSBANDRY.

GENTLEMEN,

Mr. MILLER directs plunging the Pots, in which Carnations are planted, into a Bed of rotten Tan: but we have heard him for this many Times condemned. Indeed, the want of due Care has caus'd ſome Part of what has, in theſe Caſes, been attributed to his Advice; but, upon the whole, Tan is not the proper Matter to be us'd on this Occaſion, for two very ſubſtantial Reaſons.

In the firſt Place we are to conſider, that the Intent is to preſerve the Plants from Froſts, which might penetrate the thin looſe Subſtance of the Pots. This muſt be done by Means of ſomething that will fall cloſe to them: but Tan is looſe in its Texture; and the Froſt which is ſevere enough to get thro' the Pots, will not be kept off by that poor Defence.

In the ſecond Place, few can judge when the Fermentation of Tan is abſolutely over: for when it has no longer the Power to heat, ſo as to be ſenſible to the Hand, it will ſtill retain the latent Principles of a new Fermentation, of a lighter Kind, which yet will be enough to force the Plants forward at a very improper Time. This was the Occaſion of the Accident I laſt ſaw.

The Floriſt had plung'd his Pots in Tan which ſeem'd rotten enough, and which he thought had long loſt all Power of heating; but the ſtirring and breaking it for the Reception of them, gave it ſo much of a new Fermentation, that the Plants ſhot unnaturally, and were deſtroy'd by the next Froſt.

The other Practice moſt in Uſe, is to ſet the Pots up to the Rim in a Bed of common Mould. But as the Tan is ſubject to acquire a latent Heat; ſo the Dampneſs of common Mould gives the Froſt too much Power; and where it is wetter than ordinary, will deſtroy the Plants it was intended to preſerve.

The bad Accidents I have ſeen attend theſe different Methods, were the Cauſe of my trying myſelf, and recommending to my Friends a Practice of my own deviſing; the Succeſs of which has now (for fourteen Years in my own, and near as long in ſeveral of my Friends Gardens) been ſo great, that I am glad of this Opportunity of recommending it to all who delight in this Sovereign of Flowers.

In the firſt Place, let the Plants, at the End of Summer, be put into ſomewhat larger Pots than thoſe our Floriſts commonly uſe; becauſe the greater Quantity of Earth will better defend the Roots.

If they be treated thus, it is beſt; if not, let them be taken as they come; and this Week let a Bed of a proper Size be made for them.

Mix together equal Parts of common Earth, from under the Turf of a Paſture, and of large ordinary Sand. Don't let the Earth be taken from the Borders of the Garden, for it will be beſt without Dung; add half the Quantity of one of the Ingredients of Coal-aſhes, ſifted. Stir all together, that it may be well mix'd, and have few Lumps.

With this make a Bed ten Inches deep, and of a Breadth to hold five or ſix Pots. The Length muſt be proportion'd to the Number of Pots to be preſerved.

Let this Bed be three Inches within, and the reſt above the Level of the Ground; and put the Pots into it up to the Rim, and as cloſe as they can ſtand.

Then plant Hoops over it, and due Diſtance, for the Support of Mats that may cover it in extreme Weather; and having the Mats ready, leave all for the preſent to Nature.

When the Weather is bad, the Mats muſt be drawn over them, and they muſt be taken off when it is milder

As this is the Reſult of my own Invention, and is approv'd by ſeveral Years Trial, I thought it might deſerve a Place in your truly uſeful Book of Gardening.

I am, Gentlemen,

Your humble Servant,

C. Hawkins.

Great Experience and Skill, may make the common Methods of preſerving theſe valuable Plants, ſucceed; but this is equally certain of Succeſs, and eaſy in the Management.

The Intent of this Work is, to enable the common Gardener to equal thoſe who hold them higheſt in the Profeſſion; and to inform the Gentleman, who amuſes himſelf in his leiſure Hours with the Delights of Culture, how he ſhall underſtand every Article of the Science, and be able to know whether his Servants manage their Buſineſs well.

SECT. II.

The Buſineſs of the SEMINARY, for the Beginning of October.

THE Gardener will find a great deal to be done in this Part of his Ground the ſucceeding Week, and we are to adviſe him now to prepare for it. Many Things of different Kinds and Natures will probably be planted in the Middle of *October*, and the Ground is now to be got ready for them.

Here there comes in a Conſideration of which the common Gardeners are not ſufficiently aware. There will require a good freſh Ground for the free Rooting and ſucceſsful Growth of theſe Trees; but the Advantage muſt be carry'd no farther: tho' it is neceſſary that it be good and freſh, it muſt not be enriched by Dung.

Tillage muſt, in this Caſe, as indeed it may on moſt Occaſions, ſtand in the Place of Manure. Good Digging, and the throwing up the Soil to ſome Depth, that it may have the Advantage of Sun and Air, are all that ſhould be allow'd it.

The Trees planted out in this Ground now, are to be afterwards remov'd into other Places; and it is very eſſential to their thriving in their laſt Planting, that the Ground be better there than in the Places whence they were remov'd. This is a Reaſon why the Ground, prepar'd for receiving them in the Seminary, ſhould never be rich: at the ſame Time, that, for their Growth, it is needful it ſhould not be either abſolutely barren or exhauſted.

Upon this Principle will depend the Care and Management of the Ground in the Seminary, on this Occaſion; and with the bringing ſuch Part of it as is to be planted about this Time, into Order for it, will end the Buſineſs of the preſent Week.

SECTION III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

Fruits now in their Perfection.

THERE is one Nectarine proper to this Seaſon, and it is not enough regarded: the being later than all the others, ought to give it a peculiar Value: this is the Vermash. It is a very well-taſted Kind, of a middling Size, and always green in Colour.

There is not Sun enough at this Time to tinge the Skin of it; but, notwithſtanding, it is ſufficient to mellow the Juice, which is extremely well taſted.

Of the Peach Kind there are ſeveral yet in Perfection, and very fine.

1. The Pourpree, call'd, by our Gardeners, the *Late Purple*, is a very fine Peach. The Name denotes the Colour of the Surface, which is a deep purpliſh red almoſt all over: it has a Down upon the Surface, and when cut or broken the Fleſh is yellow. When the Fruit is of a due Ripeneſs the Taſte is very rich, and the Fleſh parts freely from the Stone.

2. The old *Newington* Peach is now in its Perfection, and there are few ſuperior to it. It is a large Peach, and is very round. The Colour is red toward the Sun, and pale, or whitiſh, on the oppoſite Side. When broke the Fleſh is yellowiſh and very juicy; and it is red about the Stone.

3. Another Peach of this Seaſon is the *Rombouillon*. It is a large and fine one; the Shape is longiſh, and it is furrow'd on the Side. It is covered with a light Down, and is red toward the Sun, and of a pale whitiſh Colour, with ſome Tinge of yellow toward the Wall.

Octob.

The Fleſh is white, and full of a very rich Juice, but it is red in the Middle. This is one of the Peaches, the Pulp of which parts freely from the Stone.

A fourth Peach of this Seaſon is the *Cambray*.

This is inferior to the three others, but is not without its Value. It is ſmaller than the laſt named, and of a longiſh Shape. Its Colour is a a greeniſh white, and it is very little ſtained with red on the ſunny Side. It is moderately juicy, and the Taſte agreeable.

The ſmall Medlar is now ripe; and it greatly exceeds the larger Kind. The Tree has no Thorns upon it, and the Fruit has a leſs Core.

This recommends it; but much more the Excellence of its Taſte in the ſoft Pulp.

The Quince now ripens alſo; and there is one Kind very much ſuperior to the reſt. This is the *Portugal*.

It is of the Shape of the Buree Pear, and about its Size; and one Thing which ought to recommend the Tree is, that it is a good Bearer.

Of the Pear Kind there are, 1. The long ſtalk'd *Roſe Pear*.

This is very little inferiour to the other Roſe Pear, deſcribed in a preceding Chapter. It is a midling Pear, and has a very long and ſlender Stalk.

It is of a dark brown toward the Sun, and yellow on the other Side, when ripe. There is a Firmneſs in the Fleſh of this Pear, which to ſome is very agreeable.

The Waſps are fond of it, as are alſo many of the Birds; 'tis therefore difficult to preſerve it; but there is one Advantage, which is, that it will ripen with lying; ſo that it may be gathered a few Days before the Time when it is to be uſed, and it will thus be obtained entire.

Octob.

2. The *Salveati* is a ſecond Pear of this Seaſon. It is one of the round Kinds, and is of a moderate Size: and it is red toward the Sun, and elſewhere, when ripe, yellow.

The Fleſh is tender, and the Taſte extremely ſweet. This is another of the Kinds of which Birds and Inſects are fond; and it muſt be therefore gathered two or three Days before it is ripe, for it will not eat the worſe.

3. The *Deans Pear*, called alſo the *Doyenne*, ripens now, and is an exceeding fine Kind.

This is of a middling Size, ſomewhat longiſh, and of a white Colour. The Fleſh is tender, and full of a rich and pleaſant Juice.

With reſpect of Apples, there are now in good Seaſon the White Calville, a very good Kind, and the Golden Rennet, and Golden Pippin, too well known to need Deſcription.

The preſent Year does not favour Grapes; but it is a Seaſon when ſome good Kinds naturally are in their Perfection.

1. The *Fleſh Grape*. This has its Name from the Colour of the Berries, which is exactly what we call Fleſh Colour. It is a Kind that ripens in ſuch Years as do not ſucceed for others.

The Berries are of a longiſh Shape, they ſtand cloſe in the Bunch, and they are full of a very ſweet Juice. The Bunches are ſmall, but they make a good Figure, becauſe the Berries ripen together.

2. The *San Moireau*. The Berries of this Kind hang thin and ſtraggling in the Bunches, and have a very long Stalk. They are oblong and very large. Their Colour is brown, and the Fruit eats fleſhy, with a very pleaſant Juice.

CHAP. II.

The Care and Management of Fruit-Trees.

THIS Week is a very proper Time for the pruning and managing of Gooſeberry and Currant Trees; and they are to be ſtrengthened at the Time of pruning, by breaking and enriching the Earth about them.

The beſt Method is to cut them pretty cloſe, and then leave their Branches to diſplay themſelves according to Nature; and when this is done, a ſprinkling of old Dung ſhould be ſcattered over the Ground in which they ſtand, and dug in.

The common Method of managing theſe Shrubs is extremely bad. Mr. **Miller**, who has been hitherto ſuppoſed a Writer incapable of Miſtakes, directs the Branches of theſe Buſhes to be tied up with Withs, and Coleworts and Cabbages to be planted between them. This is not leſs contrary to Reaſon, than it is contradicted by the preſent better Practice. This tying up of the Branches, leaves the Earth about their Stems too much expoſed to Froſts; and the Plantation of theſe large and drawing Plants exhauſts the Nouriſhment from the Ground.

The Contrivance of Nature in ſpreading the Branches of theſe Buſhes near the Ground, is for the Defence of their Roots, the Ground being kept ſoft and mellow under their Shelter; which his Method of tying up prevents.

With Reſpect to the other, it is a Chance whether the Cabbage and Colewort Plants ſtand the Winter; and if they do, their beſt Produce is by no Means worth the ſtarving of the Shrubs.

For this Reaſon, as Kitchen Ground is ſeldom ſcarce, and the Produce of the Currant and Gooſeberry Buſhes, when in its Perfection, a very uſeful and valuable Article; they are by no Means to be injured for the Sake of what is ſo much inferior to them; and they will, by the Method we have propoſed for the autumnal Management of the Shrubs, rival many Fruits of better Name.

The ſame Kind of Management is to be continued to the Raſpberry Ground.

Firſt let the Gardener go through the Plantation with a ſharp Knife and a ſteady Hand, and boldly cut away the old uſeleſs Wood.

When this is done, let him go over the Ground he has trampled with a ſmall ſtrong

Hoe, breaking the Surface all about the Plants. This will deſtroy the Weeds, and prepare the Earth about them to receive the full Benefit of the Air and Dews.

Laſtly, let him dig the Ground between the Rows; and by this Means he will cut off the Ends of the Roots, and prepare a freſh broken Soil for the new Fibres which will ſhoot from them.

SECTION V.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Products of the Kitchen-Garden now in Perfection.

THE principal Produce the Kitchen Ground now affords, beſide Cabbages, Carrots, and the reſt of that common Tribe, are Artichokes, which are valuable, becauſe of the Seaſon; and ſome Cauliflowers, ripened at this advanced Time, by the Management we directed of breaking in the Middle Leaves.

Beet Root is never in better Seaſon; and for thoſe who are fond of Salſafie, this is a good Time for it.

There will be alſo ſome good Lettuces, and from the Muſhroom Beds a vaſt Produce, if they have been made and preſerv'd according to our Rules.

CHAP. II.

The Care and Culture of the Ground.

THE early *Batterſea* Cabbage, the Plants of which ſhould now be well advanced in Growth, will be fit to be planted out at proper Diſtances, where they are to ſtand for cabbaging. This is ſuppoſed to be one of the moſt trivial Operations in Gardening, yet not one in fifty does it well.

The Loſs of theſe Plants in the Froſts is a common Complaint; and it is the Occaſion of a great Diſappointment, not only to private Families, but to thoſe who raiſe them for Sale.

Many Contrivances are directed for ſecuring them againſt this Danger; but this ſhould be conſidered in the laſt planting them out, for there is no Preſervation ſo great.

The Froſt affects the Surface of the Earth firſt, and that Part which is at the leaſt Depth, moſt.

The Ground cracks by its Influence, and the Roots of the Plants are left bare and deſtroyed. To prevent this in the Plantation of Cabbages, let a good Hole be opened with a Spade for each. Let the Root be let in ſomewhat deeper than would be needful on any other Occaſion; and when the Earth has been well fixed about it, let ſome of it be drawn up in a Kind of Hill round the Stalk of each Plant.

The Trouble of this is little, and the Advantage is very great: few of the Plants thus managed are loſt in the worſt Winters.

We have directed the covering the Muſhroom Beds with Thatch; let them be now examined to ſee whether it holds good, or is in any Part defective; for if the Wet gets in, there will be preſently an End of the Produce.

Aſparagus at *Chriſtmas* is reckoned a great Delicacy; but it is very much inferiour to that which comes at a more natural Seaſon. However, for thoſe who chuſe to ſupply their Tables at that Time, this is the Period of preparing for it.

Hot Beds muſt be made for it this Week, and we ſhall in the next inform the Gardener what is to be done with them.

The Beds of Mint and Baum, and the like Plants, muſt now be enriched and encouraged for making a good Appearance in Spring. The firſt Care is to cut down the dead Stalks, and lay the Ground even. Then it is to be ſprinkled over with a little Dung from the old Cucumber Beds. This comes in an eaſy Way, and is fitter for the Purpoſe than any other. It ſhould be ſcattered over the whole Surface with a regular Hand. Here let it lie till there have been ſome gentle Showers to waſh it into the Ground; and after this the Earth about the Roots ſhould have a careful digging. This anſwers every Purpoſe of Improvement, and the ſucceeding Spring will not fail to ſhew the Advantage.

The Winds of this Month are more deſtructive than is commonly thought. They nip ſome of the Plants, and they rock and ſway others, ſo that they are looſened of their Hold, and there is an Opening given to the Froſt. Let the Damage be guarded againſt in ſome Places, by ſticking up dry Furze Buſhes; and in others, by Reed Fences well ſecured by ſtrong Poſts; and where the Plants are ſeen to be thus rocked and ſway'd, let the Gardener go round them with his Hoe, and having broke the Surface, let him earth them up as directed for the Cabbage Plants.

Young Mint will be required late in Winter, and the Preparation for it muſt be made now. It is to be planted on a hot Bed; but not forced too much, or burnt. The Heat of the Bed muſt be moderate, and it muſt be covered deep with a good Mould.

Hot Beds managed in this Manner will produce a Succeſſion of young Mint, till the Spring brings in the Shoots of that, for which we have directed the Gardener ſo well to provide in the open Ground.

E D E N:

A
COMPLEAT BODY of GARDENING.

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NUMBER VII.
For the Middle of *OCTOBER.*

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SECTION I.
FLORA, or the PLEASURE-GARDEN.

CHAP I.
Flowers and Curious Plants now in their Perfection.

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1. ÆTHIOPIAN MARYGOLD.

Octob.

Pl. VII. Fig. 1.

THIS is an elegant and ſingular, perennial Plant. It claims a Place in the Collections of the Curious, for the Beauty of its Flowers, and more for the Duration of that Beauty: for with the Culture we ſhall recommend it will continue in Bloom all the Year; and the Variety of its Flowers in Colour under their ſeveral States and Appearances, and according to their different Situations on the Plant, adds greatly to its Value.

Upon the whole, it is one of thoſe Plants which every Garden ſhould have, and every Writer on Gardening ſhould recommend; for it has every Advantage: Profuſion of Flowers, laſting Beauty, and an eaſy Culture. But we are fallen into a Way of being content with a few common Things; and none adviſes us to add to them.

BOERHAAVE, who raiſed this in the *Leyden* Garden, called it *African Caltha.* COMMELINE, from ſome faint external Reſemblance with the Daiſy Kind, has named it the cut-leaved *Bellis:* but it is properly a Marygold; and its diſtinct Name *Calendula foliis lanceolatis ſinuato dentatis caule nudo:* naked ſtalked Calendula, with Spear-pointed and deep cut Leaves.

Octob.

The Root is brown and fibrous; it ſpreads under the Surface, and laſts many Years.

The Leaves riſe from this in regular thick Tufts; and have themſelves a great deal of Beauty: they are four Inches long, and moderately broad, ſmalleſt at the Baſe, larger to the End, deeply ſinuated, and ſharp-pointed as a Spear. They are of a fleſhy Subſtance, and of a fine green Colour.

Among theſe riſe the Stalks: they are numerous, upright, naked, and of a bright pale green. Each ſuſtains a ſingle Flower; and as the Plant is uſually decorated with ten or a dozen of them at once of various Heights and Degrees of Maturity, the Sight is wonderfully pretty. One Flower ſtands on the Summit of each Stalk, and it is very large and beautiful.

It conſiſts of a central Diſk, and radiated Edge; and in each Part there is great Elegance and Variety.

The Rays, or long Petals of the Edge are Snow white within, and of a bloody purple on the Outſide; ſo that the front View of a Flower affords in them one Colour; the Back another: and the Buds ſhewing only the Outſides of theſe Petals, are of a deep Violet purple.

In the ſame Manner the Diſk, which is compoſed of numerous ſeparate little Flowers, is of a Violet Purple before they open, and of a moſt elegant Straw Colour when they expand.

The Seeds are flat and membranaceous.

The Student in the LINNÆAN Syſtem will be ſtartled on looking into this Flower; and ſcarce know what to think of a Plant, in which its Centre, inſtead of Filaments and a Style, offers to his Eye ſeparate and perfect Flowers, ranged in an even Cluſter.

This is one of the Plants the common Authors have called Corymbiferous; and many Flowers, tho' overlooked by the Incurious, are of this ſingular Structure.

It is one of the *Syngeneſia Polygamia* of LINNÆUS; Plants whoſe Antheræ unite, and whoſe Fructification is performed in various Manners.

We have led the Student toward an Underſtanding of this abſtruſe Claſs, by the Account given in our laſt Number of the *Æthiopian* Tanzy; and having there ſo far cleared the Way, we may here, without Difficulty, lead him to the compleat Underſtanding of the Claſs.

We there ſhewed him Cluſters of ſmall Flowers united into little Heads, and ſtanding in them naked: We here preſent to his Eye Cluſters of little Flowers diſpoſed in the ſame Manner together, but ſurrounded by radiated Petals.

The Head of the Tanzy formed what is called a naked, and this a radiated, diſcoide Flower.

This ſhews him that he is to conſider theſe gaudy Petals as no more than an extraneous Ornament; and that the little Floſcules making up the Diſk, are the proper and diſtinct Flowers of the Plant; containing the Parts of Fructification, and ſingular in nothing but that they are thus collected into a Head, and edged with Petals.

Thus far underſtanding the Nature of the Flower, let him examine its external Structure firſt, and then the internal Parts of each Floſcule.

The whole Flower, for ſo the Diſk and the radiated Parts are called together, is placed in a large Cup divided deeply into ſixteen or eighteen long and narrow Segments: the Number not conſtant or certain. Theſe are pointed at the Ends, and equal in Bigneſs.

This Cup is formed for the Reception both of the Flowers of the Diſk, and the Subſtance on which they grow: and though in this Plant, and all others of its Kind, it be compoſed but of a ſingle Series of Segments, in others of the ſyngeneſeous Tribe it conſiſts of more, and they are diſpoſed in various Manners. Within this Cup ſtand the Petals diſpoſed as Rays, and theſe ſurround the Diſk, which is the Cluſter of the proper and diſtinct Flowers.

Theſe let the Student obſerve with an attentive Eye. He will perceive, as he inſpects the whole Diſk, that they are of two Kinds; a great Number of ſhort ones ſtanding together in the central Part, and a Circle of longer ſurrounding them at the Rim, juſt within the Petals.

It will be natural at firſt Sight to imagine theſe only differ from the others in being more mature, but it is otherwiſe.

Having thus viewed them together, let him examine them ſeparately, and he will then perceive they differ eſſentially.

Let him take carefully one Flower from the Rim, and another from the Centre; and open them tenderly, not to diſturb their internal Parts. He will find in the Flower taken from the Centre five Threads or Filaments, and the Rudiment of the Fruit with its Style, which is very ſlender: but in that he took from the Edge, he will ſee only the Rudiment of the Fruit with its Style; there being there no Filaments.

For this Reaſon the Flower from the central Part is the proper one for examining in order to know the Claſs; and in this he will find the Antheræ on the five Filaments united into a Cylinder: this ſhews it to be of the ſyngeneſeous Claſs; and the various Flowers in the ſame Head ſhew it alſo of the polygamous Kind, or thoſe whoſe Fructification is performed different Ways.

This Preparation of Nature is in ſome *ſuperfluous*; the central Flowers, as well as thoſe in the Edge, perfecting their Seeds: in others it is *neceſſary*, as in this Plant; the central Flowers which contain both male and female Parts, from ſome Defect in the female Organs, not well ripening their Seeds; whereas thoſe in the Edge, which have only female Parts, being impregnated by the Antheræ of the central Flowers, ripen them perfectly.

This is the Origin of a third Diſtinction in LINNÆUS, for he calls thoſe *ſuperflua*, where the Flowers in the Centre ripen their Seeds as well as thoſe in the Rim; and he uſes the Term *neceſſaria*, where they do not.

This Plant therefore is one of the *Syngeneſia polygamia neceſſaria* of LINNÆUS.

The Student now underſtands the Terms; and he has maſtered the moſt difficult Point in the LINNÆAN Syſtem.

Culture of the ÆTHIOPIAN MARYGOLD.

This Plant is to be raiſed originally from Seeds, and afterwards to be encreaſed by parting the Roots.

The *Dutch* get their Seeds from the *Cape of Good Hope*; and by that Means raiſe the Flower in great Perfection: but they will ripen here, and the Plants may very well be produced from them.

The Method is this. Sow them upon a hot Bed in Spring, with thoſe of the *Marvel of Peru*: treat the Plants in the ſame Manner; and when thoſe are planted out, let theſe be alſo ſet in Pots.

Thus far the common Practice of our Gardeners would manage them rightly; but here muſt

Octob. come in ſome particular Care, otherwiſe, though they will live, they will not have their natural Beauty.

Let a Mixture be made of equal Parts, Pond Mud, coarſe Sand, and the Earth from under a Wood Pile; with this fill three or four Pots, and let them be large ones. In the Centre of each Pot, at the Time of planting out the common Annuals, place one of theſe. Settle the Earth well to the Root, water it, ſhade it, and when it has got Strength from the ſetting, place it in the free Air, among the Greenhouſe Plants.

Toward *October* let it be removed into the Stove, and there preſerved the Winter. Octob.

There uſually break out ſome very fine Flowers upon it the firſt Year; but this is a ſmall Conſideration. In the *May* following Buds will appear in great Numbers, and it muſt then be watered frequently. This will ſet it in for good flowering.

As the Flowers fade let their Stalks be cut off; and it will thus be loaded with a freſh Succeſſion, almoſt without Stop or End.

2. BLUE UMBELLATED CRINUM.

Pl. VII. Fig. 2. This is a Plant of very noble Aſpect, and of conſummate Beauty. The Number and Diſpoſition of the Flowers, for they form a vaſt and regular Head, is a great Recommendation to its Culture, as well as their Form and Colour ſingly.

The firſt Writers who deſcribed the Plant called it a Hyacinth; but this was an irregular Manner of Expreſſion; for the leaſt Attention would ſhew it does not belong to that Kind.

Van Royen calls it a Polyanthus; and Linnæus, in his earlier Works, has expreſſed it by the ſame Name; but in his later and more correct Treatiſes, he makes it a Species of Crinum.

Its proper Name is, *Crinum foliis ſublanceolatis planis, Corollis obtuſis:* Obtuſe flowered Crinum, with plain and ſublanceolated Leaves.

The Root is large, irregular, tuberous, and roundiſh; its Colour yellow, and its Subſtance juicy. From its Top run ſeveral thick white Fibres, which at their Ends part into many ſmaller, and loſe themſelves among the Mould.

The Leaves are numerous, and not without their Beauty; they riſe in a round Tuft, and they are long, narrow, thick, juicy, and of a very bright and lively green.

In the Centre of theſe riſes a ſingle Stalk: this is round, thick, upright, hollow, naked, and two Foot high.

The Flowers grow in a great rounded Head or Cluſter, at the Top of the Stalk, and they are extremely elegant.

Their Colour is a fine lively blue, and the Filaments within them are long and white, and crowned with Buttons of a gold yellow.

The Flowers have their ſeparate ſlender Footſtalks, which all riſe together from one Point at the Head of the main Stalk: and they are there ſurrounded by a kind of foliaceous Caſe, ſerving in the Place of a Cup. This is form'd of two oblong Leaves, and they turn back after the Time of flowering.

Each Flower is form'd of a ſingle Petal, tubular at the Baſe, and divided deeply into ſix oblong obtuſe Segments. In the Centre riſe ſix Filaments. Theſe are equal in Length and Diſpoſition: they therefore mark the Claſs of the Plant, declaring it to be one of the *Hexandria*, the Sixth of Linnæus.

In the Centre is ſeen a ſingle Style, riſing from the Rudiment of the Fruit; and this ſhews it to be one of the *Monogynia:* it is therefore of the ſixth Claſs and firſt Section.

The Seed-veſſel is of an oblong Figure, and contains numerous large Seeds in three ſeparate Cells.

It is a Native of *Africa*, and there riſes wild in Places where the Soil is little better than a naked Sand.

'Tis an Obſervation that the Flowers there are always moſt numerous and beſt colour'd when the Plant grows within the Influence of Salt-Water. This, and the natural Soil and Place, declare its proper Culture.

Culture of the blue umbellated Crinum.

The Method to obtain the Flowers of this Plant in their full Perfection, is to nurſe it with due Heat and Moiſture in a proper Soil.

In *February* throw into a Heap one Barrow-full of light Mould, from under the Turf of a hilly Paſture, and the ſame Quantity of coarſe Sand: mix theſe well together, and ſprinkle on them two Ounces of Kitchen-Salt. Let this Heap lie, and turn it two or three Times before the Seaſon of uſing it: this muſt be the Beginning of *June.*

Prepare two or three moderate Pots. Firſt lay in the Pieces of Tile, that the Hole may not be choak'd up: then put in about one half the Potfull of Earth.

On this, place carefully one of the Roots obtain'd from *Africa*, or an Off-ſet from ſome other Garden; pour in more of the Soil to it; ſettle the Whole carefully, and well about it, and let it be covered half an Inch deep.

Give it a very gentle Watering, and ſet it in a warm ſhelter'd Place; but in the open Air. Here give it now and then a gentle Watering, and let it continue till the Beginning of Autumn. Then remove the Pots into a Place where the Sun has full Power, and continue watering them frequently and moderately.

The Danger of Decay will be now over, and

they

Octob. they will ſhoot out their Leaves. This is all that muſt be expected from them the firſt Seaſon; but the next they will flower.

When the cold Weather comes on, they muſt be taken into the Stove; and after that, nothing more will be requir'd but clearing the Earth from the Top of the Pot to the Root once in a Year, and putting in freſh of the ſame Compoſition. Octob.

3. EVERGREEN PURSLAIN.

Pl. VII. Fig. 3. Every thing in this Plant conſpires to recommend it to thoſe who delight in Exotic Beauties of the Vegetable Kind: the Form, Regularity, and Diſpoſition of the Leaves; the wild ſpreading of the Stalks, and the ſimple Elegance of the Flower. We know what the *Roman* meant by that Phraſe which none could ever tranſlate, *Simplex munditiis*; and we read it in this plain but pleaſing Flower.

Authors have not well known what to make of a Plant which with all the Characters of Purſlain had ſo conſpicuous a Flower. VAN ROYEN, and, in ſome of his Works, LINNÆUS has call'd it an *Anacampſeros.*

DILLENIUS haſt diſtinguiſh'd it by the Name of *Telephiaſtrum folio globoſo.*

COMMELINE calls it *Portulaca Africana ſempervirens flore rubicundo*; and LINNÆUS, in his later Writings, *Portulaca foliis ovatis gibbis pedunculo multifloro caule fruticoſo:* Shrubby-ſtalk'd Purſlain, with ſwelling oval Leaves, and ſeveral Flowers upon the Stalk.

The Root is white and thick, and has many ſpreading Fibres. The Stalks are numerous, ſlender, of a woody Hardneſs, but not erect and buſhy: the Weight of the Leaves is more than they have Strength to ſupport, and they ſpread themſelves upon the Ground, or hang from the Sides of the Pot, in a very pleaſing Irregularity.

The Leaves ſtand thick upon them, and they are fleſhy, ſwell'd, pointed, and of a very fine and lively green.

The Flowers grow at the Tops and Extremities of the Stalks and Branches, and they are large and of a fine bluſh Colour.

Chance of Culture ſometimes makes them deeper, and ſometimes paler than this exact Tinge; but it is their natural Hue, and they never are ſo beautiful.

The Seed-veſſel follows, and it is large, and full of ſmall pale brown Seeds.

The Cup, in which the Flower is plac'd, is divided into two Parts, and is ſmall.

The Body of the Flower is compos'd of five broad, ſhort, and pointed Petals: and in its Center ſtand numerous Filaments: theſe are to be examined, to know the Place which the Plant demands in the LINNÆAN Syſtem.

We have before acquainted the careful Reader, that when there are in a Flower more than twelve Stamina, its Claſs is to be determined by the Place of their Origination. If they ariſe from the Inſide of the Cup, it is of the *icoſandrous* Claſs; but if from the Receptacle, then the Plant belongs to the *polyandrous* Kind.

On tracing the Filaments, in this Caſe, to their Baſe, they will be found adhering to the Receptacle, not to the Cup; therefore this is one of the *Polyandria*, the thirteenth Claſs in the LINNÆAN Syſtem. In the Center riſes a ſingle ſhort Style, and this ranks it among the *Monogynia* of the firſt Section.

Culture of the EVERGREEN PURSLAIN.

This elegant Plant is to be rais'd from Seeds, or propagated by Cuttings; for it ſucceeds equally well either Way.

The Seeds ripen in *England*, and it will grow from them; or it may be rais'd from ſuch as are brought from the *Cape of Good Hope*, its natural Place of Growth: and theſe, if brought into *Europe* tolerably freſh, never fail to raiſe the fineſt Plants.

They are to be ſown in a Hot-Bed; and rais'd in the Manner of annual Plants: and, when well grown, they are to be planted into Pots, in which they will ſometimes flower the firſt Year, and never fail the ſecond.

The Cuttings ſucceed very well in the common Management of thoſe of tender Exotics which we have deliver'd already; and the ſecond Year they will make good Plants.

In whatever Way it is rais'd, it muſt be defended from the Severity of our Winter, and it very well makes amends for the Trouble; for it is green and beautiful all the Year, and flowers the greateſt Part of the Summer.

4. SWEET CALLA.

Pl. VII. Fig. 4. The Figure of this Plant will put the Reader in Mind of a very frequent one under our Hedges, to which it has a general Reſemblance: this is the common ARUM. But it is not for the leſs worthy a Place in the moſt curious Collection.

Notwithſtanding the Likeneſs it bears to that Plant in the external Form, it is extremely different in the particular Parts, and even in the Generical Characters; and it has Beauty, Singularity, and Fragrance, to recommend it to the Attention of thoſe who delight in theſe Curioſities of Nature.

The external Reſemblance it bears to our ARUM, has led moſt Authors to call it by that Name; but we ſhall ſhew, in the Examination of the Flower, with how ſufficient Reaſon thoſe of later Time, and more correct Enquiry, have ſeparated it from that Genus, and join'd it with ſome others under a diſtinct Denomination.

COMMELINE, following the Aſpect of the Plant, has call'd it *Arum Æthiopicum, flore albo odorato.*

LINNÆUS makes it a Species of CALLA, and diſtinguiſhes it by the Title of *Calla foliis ſagittato-cordatis ſpatha cucullata, ſpadice ſuperne maſculo:* CALLA, with Arrow-headed and Heart-like Leaves, with a hooded Spatha, and with the Spadix containing male Parts on its upper End.

This Name of LINNÆUS is conceiv'd in Terms which will ſeem ſtrange to the Student's Ear; but that is owing to the ſingular Structure of the Plant, and they will become eaſy with the Aſſiſtance of our Figure and the Deſcription.

The Root is tuberous and large, brown on the Outſide, white within, and of a tender Subſtance. From this run ſeveral thick white Fibres.

The Leaves riſe many together, and they have great Beauty: they are plac'd on long thick Footſtalks; and they are very large, and of a fine gloſſy green.

They are long, and moderately broad, deeply indented in a Heart-like Manner at the Baſe, wav'd at the Edges, and terminated by an extremely ſmall Point, which is ſometimes ſingle, ſometimes ſplit, and always turns in the Manner of a Tendril.

The Stalk riſes in the midſt of theſe, and it is robuſt, upright, thick, two Foot high, and of a gloſſy green.

On the Summit of this Stalk grows a ſingle Flower, unlike every Thing, except the *Arum* Kind, in general; and in the moſt eſſential Particulars different from that. Its general Form is this.

There grows from the Head of the Stalk a broad hollow leafy Sheath or Caſe; open, and white within; and in the Centre of this ſtands up an oblong Club, reſembling that of *Arum*, and in Colour yellow. Upon this are plac'd the Flowers, which are minute and whitiſh; and, when they are fallen, there come Berries, which, when ripe, are red.

The whole Flower, when it is in Perfection, has at Evening a very ſweet Smell, perfectly perfum'd, and ſomewhat reſembling Muſk.

Its Taſte is acrid, and there is one extremely ſingular Circumſtance attending it: this is, the Way in which it viſibly diſcharges abundant Water. If too much be given it at a Time, the twining Extremities of the Leaves grow damp, and afterwards throw out the wet in Drops: it comes from them clear, but it taſtes ſtrongly of the Plant. This is a Singularity firſt obſerv'd by COMMELINE, and it may be of great Uſe in explaining Vegetation.

The young Student will be at a Loſs where to look for the Characters of this Plant, or what to determine concerning it: but when we have led him thro' this Difficulty, he will have very nearly maſter'd all the LINNÆAN Syſtem.

The great hollow Sheath or Caſe, he is only to conſider as the Cup of the Flowers; and the Club itſelf as deſtin'd for the Reception of the Organs of Impregnation. The Flowers are very minute, they have no Petals: and they muſt be carefully taken off, and examined ſeparately. They will be found of two Kinds, ſome conſiſting of Filaments, and their Buttons or Antheræ, others only of a Rudiment of the Fruit with its Style.

They ſtand ſomewhat confuſedly on the Club; but, in general, the male Flowers, that is, thoſe conſiſting of Filaments, are plac'd on the upper, and the female on the lower Part.

Such is the Structure of this ſingular Fructification, in which, as there are neither a particular Cup nor Petal to each Flower, it is not eaſy to ſay how many of the Filaments conſtitute one; but the beſt Obſervation, and the Analogy of Nature, uſually obſerv'd in theſe Things, ſeems to fix it at ſix.

The young Botaniſt is not, for this Reaſon, raſhly to refer the Plant to the *hexandrous* or ſixth Claſs; for when there is any thing ſo extremely remarkable in their Diſpoſition, as in this Inſtance, that becomes the Character of a diſtinct Genus.

He finds them here plac'd upon the Club which LINNÆUS conſiders as the general female Part of the Fructification, it being deſtin'd for the Support of the Berries.

This makes a peculiar Mark, and arranges the Plant under a diſtinct Claſs. It is his Twentieth: the Title *Gynandria*, a Term form'd, as the others, of two *Greek* Words, and expreſſing Plants in which the Filaments or male Parts, grow upon the female, or when they are plac'd in an irregular Manner together.

The eſſential Diſtinction between the *Calla* and *Arum* is, that in the *Arum* the Body of the Club is naked, and the male and female Parts are arrang'd at its Baſe; but in the *Calla* they cover the Whole.

Culture of the CALLA.

This Plant is worth any Care, not only for its Singularity and Fragrance, but for the Article of its dropping Water. We have ſeen it fail; and ſhall therefore be the more particular in delivering its true Culture.

It is a Native of the *Cape of Good Hope*, and 'tis beſt to get the Roots thence.

The Leaves and Stalk decay as ſoon as the Berries have ripen'd, and the Roots ſhould then be taken out of the Ground. Being carefully ty'd up in Bags, they will keep many Months out of the Earth without Damage; and as ſoon as receiv'd, they muſt be planted in the following Manner:

Mix together one Buſhel of old and well-wrought Garden-Mould, two Buſhels of Earth from under a Wood-Pile, and half a Buſhel of Sand, work theſe well together, and they will

Octob. make a Compoſt very like the Earth in which the Plant naturally grows.

Fill as many Pots with this as there are good Roots, and carefully lay one Root in each, covering it two Inches deep. Give the Pots a very gentle Watering, and ſet them in ſome Place where there is Shade and Shelter. They muſt be now and then refreſh'd with a little Water, and left to Nature for ſhooting.

After ſome Time the firſt Shoots of the Leaves will appear, and this muſt be watch'd; for it is the Signal for removing them into a more expos'd Place.

Let them in this Condition be ſet among the Greenhouſe Plants, where they are plac'd out for the Summer, and every Evening gently water'd. The Leaves will thus ſoon expand themſelves.

Thus they are to ſtand till the Time of taking in the Greenhouſe Plants, and they are then to be remov'd with them, and manag'd in all Reſpects as the reſt. After this they will flower every Year, and their Evening Sweetneſs is very agreeable.

When they are thus eſtabliſh'd, their Roots will produce Off-ſets, from which the Plants may be encreas'd; but thoſe which are obtain'd this Way, never equal in any Reſpect ſuch as are rais'd from good Roots brought from *Africa*.

5. SILVERY PROTEA.

Pl. VII. Fig. 5. The young Botaniſt is here to be made acquainted with a Shrub, whoſe Leaves alone have a Right to claim for it a Place in the beſt Collection; had it no Fruit or Flower.

They have not only Beauty, but Variety; for ſcarce two Shrubs of it are in this Reſpect alike.

It is a Native of *Africa*, and there the Whiteneſs and the Luſtre of its innumerable Leaves, make all other Trees poor in the Compariſon: it repreſents a Shrub of wrought Silver.

With us it loſes much of this Luſtre, but it retains Beauty enough to recommend it to the beſt Notice, and varies in Colour every where.

No Shrub has been more eſteem'd, nor has any been diſtinguiſhed by ſo many, or ſo pompous Names.

Plukenet has call'd it *Leucadendros*, The White Tree. Ray, *Argyrodendros*, The Silver Tree: and Boerhaave, *Conocarpodendron.* Tournefort has rank'd it as a Species of *Globularia.* And each of theſe, beſides the different Generical Names, has divided it under that variety of Appearances we have nam'd, into a Number of diſtinct Species.

The Tree is one and the ſame in all thoſe Forms, and Linnæus has juſtly eſtabliſh'd, and well expreſs'd this, by calling it Protea, The Changing Tree.

There is a diſtinct Kind with brown and oval Leaves, from which he has ſeparated this more uſual and beautiful Species, under the Name of *Protea foliis lanceolatis obliquis acutis ſparſis floralibus verticillatis:* Protea, with oblique, acute, ſpear-pointed, ſcattered Leaves, and with the floral ones plac'd verticillately.

It riſes with us to a handſome Shrub, and ſpreads out variouſly in Branches. The Root is brown and ſpreading: the Trunk is duſky, and the Branches are paler.

At the Tops they uſually retain the natural ſilvery whiteneſs of the Tree, as do the young Leaves; and whatever be the general Change in this Plant, yet theſe Parts view'd in a full Sun, ſhining on them, have a Luſtre vaſtly ſuperior to any other Vegetable, and worthy of the Character thoſe give it who have admir'd it in its native Soil.

The Leaves are oblong, narrow, ſharp-pointed, and variouſly plac'd, obliquely and otherwiſe, ſo that they ſhew themſelves always in many Forms. They are ſerrated elegantly at the Edges, and they are of a firm Subſtance. Their Colour, naturally, is a perfect white, and their Aſpect between Silk and Silver. They are covered with a fine light Down, and glitter in the Light.

The Flowers are ſingly inconſiderable, but the Fruit is as elegant as the Leaves. It reſembles the Cone of our Firs or Pines, in Structure, but it appears form'd of Silver.

The Flowers are diſpos'd in the ſmall Head, which afterwards ripens into this ſilvery Fruit. Each is form'd of a ſingle Petal, which is tubular, and divided into four Segments at the Rim; and within it ſtand four Filaments with their Buttons, and a ſingle Style. Theſe fall; and then the Fruit enlarges without altering its Figure.

Theſe Flowers, where there is an Opportunity of ſeeing them, ſhew the Tree to be of the fourth Claſs of Linnæus, the *Tetrandria*; Plants in whoſe Flower the male Parts are four: and the ſingle Style declares it alſo to be one of thoſe which form the firſt Section of that Claſs, the *Monogynia:* thoſe with a ſingle female Part.

Culture of the Silvery Protea.

It is a Native of *Africa*, where it grows to the Stature of a moderate Tree. It thrives beſt in a dry but not too poor Soil; and its Fruits ripen in ſuch Abundance there, that 'tis eaſy to obtain them. From theſe the Seed is eaſily pick'd out, and it will freely grow.

This therefore is the beſt Way of raiſing the Shrub.

Early in Spring mix up the following Compoſt: Put together one Barrow of Earth, from under the Turf in a rich hilly Paſture, a Barrow and half of Earth from under a Wood-Pile, and half a Barrow of Sand; break over this two moderate

Pl:7.

Æthiopian Marygold

Blue umbellated Crinum

Ever Green Purslain

Sweet Calla

Silvery Protea

Purple Geranium with auriculated Leaves

Octob. Pieces of Stone Lime, and leave the Heap to the Weather.

When it has lain ten Days, breaking and ſtirring it every Day, and gently watering it every third Day, it will be fit to uſe.

Pick out the Seeds carefully from one of the Cones that has been gathered ripe and kept ſound; one Seed will be found under every Scale.

Fill a Couple of Pots with the Compoſt, and ſprinkle over the Surface of each a dozen of the Seeds. Cover them half an Inch with the ſame Earth, and put the Pot into a Bed of Tanner's Bark.

Every Evening let theſe Pots have a gentle Watering; and in about a Month the Seeds will ſhoot. It will be longer if the Seed were old; and ſometimes I have ſeen it earlier by five or ſix Days.

When the Plants appear, let them be once a Day gently watered, and take Care not to hurt their tender Shoot, which muſt be the Stem or Trunk of the ſucceeding Shrub.

Few Gardeners conſider the Importance of the Seed Shoot; and this is the Reaſon we ſee ſo few well-ſhaped Shrubs in *Engliſh* Gardens.

In theſe Pots let the young Plants ſtand till they are three Inches high: then let there be as many ſmall Pots prepared for them, as there are Plants.

Put into each ſome of the Compoſt, and in each plant one of them; taking them carefully up from the firſt Pots. Put more of the Compoſt round them, and ſee they be ſet upright and firm; then give them all a very careful and very gentle Watering.

Repeat this afterwards once a Day in the ſame ſparing Manner. Octob.

As ſoon as the Plants are in the Pots, let them be put into a Bark Hot-Bed.

Let this Bed be of a moderate Heat; ſhade it with Mats, and thus let them remain till the next Evening. They will then begin to recover the Removal.

The Bed is to be ſhaded at Noon every Day for ten Days or more; and after that, as the great Article of rooting will be over, they muſt be watered at Times, and have Air by raiſing the Glaſſes.

The clumſy Practice of our Gardeners is to do this by a Brickbat, and ſo their Inſtructors direct them: forming their Rules by what they do, not what they ſhould do, and conveying little Knowledge but what they have before.

I have been uſed to prop the Glaſſes of my Bark Beds by a notched Stick, with Quarter Inch Diviſions; and by this Means can give my Plants any Degree of Air that is neceſſary.

When they are thus by Degrees hardened, let them in the Middle of Summer, be ſet out in the open Air, in a warm and well ſheltered Place, and watered at Times.

After this they require nothing but the common Care of tender Plants. They muſt be removed into larger Pots when they have more Bigneſs; and in Autumn they muſt be taken into the Green-houſe among others which require that Protection.

The great Care muſt be to let them have as much free Air as they can bear; for on this depends the ſilvery Colour of the Leaves.

6. PURPLE GERANIUM, *with* AURICULATED LEAVES.

Pl. VII. Fig. 6. The Geraniums which we obtain from the warmer Quarters of the Globe, are well known, as Plants of great Beauty.

This is one which adds Singularity in the Manner of its Growth, to the common Character of Elegance in the Flower; and therefore merits, on more Accounts than one, a Place among the Exoticks we raiſe in our Gardens.

The Characters of this Genus of Plants are ſo ſtrongly impreſſed on the beaked Form of the Seeds, that all Authors have referred them to the ſame Place.

LINNÆUS diſtinguiſhes this by the Name of *Geranium calycibus monophyllis, foliis oblongis integris tripartiſque, pedunculis radicalibus*: a name containing the eſſential Parts of a Deſcription: Geranium, with Flower Cups formed each of a ſingle Leaf, and with the Leaves of an oblong Form, ſome undivided, ſome broken into three Parts, and with the Stalks of the Flowers riſing immediately from the Root.

The Root is white and fibrous. The Leaves riſe from it in Cluſters, and ſpread themſelves with a pleaſing Irregularity upon the Ground.

Each has its ſeparate long Foot-ſtalk, which is naturally of a whitiſh green, but often reddiſh.

The Leaves vary among themſelves; ſome are ſimple, and others formed as it were of three Parts.

The ſimple Leaves are oblong, broad, obtuſe, and irregularly dented at the Edges: the others are of the ſame Form, but they have beſide a Couple of ſmall Leaves at their Baſe.

All are of a beautiful green, and make a handſome Appearance.

The Stalks riſe in the Tuft, and they are low and naked. About ten Inches is their uſual Height; and at the Top there burſt from a divided general Cup many ſlender ſeparate Pedicles, each ſuſtaining a ſingle Flower.

The whole Cluſter forms a Kind of round Umbel, and is very regular and handſome.

Each Flower is large, and of a ſhining purple, with a Tinge of ſcarlet.

We want Words in the *Engliſh* Language to expreſs the Diverſity of Colours; but this is as near a Reſemblance as can be given of the ſingular mixed and beautiful Tinct of this Plant's Flower.

The

Octob.

The Seeds are gathered into a Crane-like Head, as in the other Geraniums; and theſe are conſiderably large in Proportion to the Plant.

Culture of this GERANIUM.

This is a Species which muſt be raiſed from Seeds; and the Choice lies between thoſe ripen'd on Plants at Home, and ſuch as may be imported from *Africa.*

There need be little ſaid of the Preference that is to be given to the *African* Seeds, when they can be had freſh; but thoſe the Plant ripens itſelf here, will produce it, and it may be propagated alſo by parting the Root.

The Seeds, whether obtained from Abroad, or ripened here, muſt be ſown in *February*, in Pots of a Compoſt made with equal Parts of Garden Mould and Wood Pile Earth.

Theſe muſt be ſet in a Bark Bed; and when the Plants have a little Height, they muſt be tranſplanted into ſeparate Pots, in which they are to remain ſome Time in another hot Bed.

After this they muſt, by Degrees, be hardened; and then ſet out among the Exoticks, which bear the free Air of our Summers.

They will uſually, with good Management, flower the firſt Year, and they ſcarce ever miſs the ſecond.

They are to be preſerved in Winter in the Greenhouſe, and require no other Care than what is beſtowed upon all other Plants placed in thoſe Buildings.

* * *

CHAP. II.

The Management of the Flower-Garden.

WE ſuppoſe the Borders of the Flower-Garden, according to the Directions before given, to be now perfectly clean, and in handſome Order.

Let the Gardener walk his Rounds with ſome ſmall Sticks in his Hand, and obſerve if there be in any Part a Vacancy among the Perennials planted for the ſucceeding Summer's flowering; and if there be, let him place one of the Sticks as a Mark.

The good Condition of the Borders will make him able now to ſee it clearly.

Let him at the ſame Time obſerve, whether the Diſtances at which his Roots of this Kind are planted, will admit any Thing between them; and let him judge of this with Moderation.

We will not ſuppoſe him to have performed his Work ſo ill, that there is proper Room every where between Plant and Plant for another; but if they ſtand ſo, that an Addition can be made once in three or four, or if it be ſix Plants, by placing in a Root, forwarder or backwarder on the Border, without diſturbing the reſt, let him in each ſuch Place put down a Stick; and then conſider what is in the Ground already; and by what Additions he may beſt give Variety, as well as Fulneſs.

He has a great Choice of Things before him, and may mix Colours, as well as Forms, very agreeably.

Where the Places are marked backward in the Borders, he may bring in from the Seminary *French* Honey-ſuckles, Foxgloves, Columbines, Golden Rods, and the Perennial Aſters: and where they are marked in front, and Plants of leſs Height will be better, he may vary the Scene, and fill the Border with Sweet Williams, Cyanus, and the Double Violet.

All theſe ſucceed perfectly well when planted at this Seaſon. A good Hole ſhould be opened for them, and the Ground well broke, and they ſhould be brought in immediately as they are taken up, with a good deal of their own Earth about them.

They muſt be trimmed at the Ends of their ſmall Fibres, placed upright in the Ground, and have the Earth drawn regularly to them.

After this a gentle Watering ſettles the new Mould to them, and they will ſtrike good Root before the Froſts attack them.

Let the Floriſt now look to his Pots of Auriculas; if there be any dead Leaves let him pick them carefully off. Let him ſee no little Weeds or Moſs riſe in the Pot; and when all is thus cleared, let them be removed into a Place of Shelter.

The principal Danger to the Auriculas in Winter riſes from Wet freezing in the Ground. They will bear Cold very well while the Earth is in a good Temper about them; but when they are expoſed to Rains, and ſharp Froſts follow, moſt of them are loſt or ſpoiled: therefore the Gardener will underſtand, that to keep them dry is more eſſential to their Preſervation, than to keep them warm.

When he has gone round his Flower Borders in this careful Manner, and has left all clean and carefully planted, let him take the ſame Courſe with his Plantations of flowering Shrubs, and with thoſe which are diſperſed in the Borders.

In larger Gardens theſe Plantations are uſually kept ſeparate; but in ſmaller the Shrubs ſtand in the Borders in the Way of perennial Flowers. In each Caſe let him go the Round, beginning at one Spot, and returning at laſt to it.

Let him examine the whole with a curious Eye, for this is the Time to amend Defects; and they are ſo eaſily mended, and ſo conſpicuous when let alone, that no Care can be too much upon this Head.

Let him in the ſame Manner note the Places where new ones may be planted, and alſo mark any that are decayed or decaying. Where they are eaſily had, as in the Neighbourhood of Nurſery-Men, or where there is a Seminary tolerably kept up for the Supply of the Garden, they come ſo cheap, that it is never worth while to wait for the Recovery of one that is decaying. At this Seaſon when any ſuch are diſcovered, tear them up at once, and place new ones in their Stead.

When theſe bad Shrubs are removed, and the Places marked where others are to come, let there be opened in each Spot a good Hole for the Reception of the new one; and let them be brought freſh in, with as much of their Earth about them as conveniently can be; and planted with Care, keeping them upright, and fixing the Earth well about them.

The Variety of Shrubs which offer for this Purpoſe is very great, and moſt of them are extremely beautiful: but as we have found from Experience, that ſome of them ſucceed better at one Time of planting, and ſome at another. We ſhall here add a Liſt of ſuch as always thrive upon being tranſplanted at this Seaſon.

Theſe are the Double Bramble and Double Cherry, both very beautiful when in Bloom; the firſt frequently ſtained with red, and the other Snow white. The Bladder and Scorpion Sena, the Lilac and Syringa, the Spiræa, the Bird's Cherry, and the Arbutus; and to theſe we ſhall add two others, though of very different Kinds, yet of great Beauty: theſe are the Coccygria and the Spotted Ciſtus.

The Gardeners take their Choice of planting theſe ſeveral Kinds in Autumn or in Spring; but the autumnal Seaſon is vaſtly preferable. This we advance upon Experience againſt the Cavils of the beſt of them; and it is of particular Service in the preſent Caſe.

Upon any Occaſion it is preferable, becauſe the Shrubs ſtrike ſome Root before Winter; and as they require little Supply in that Seaſon, thoſe they now ſend out ſerve for the Purpoſe; and they are ready to puſh with Vigour, when the Warmth and Moiſture of the Spring ſwells and invigorates them: but in the particular Caſe we here mention there is a very great Advantage.

If the Shrub be planted to ſupply a Deficiency in Spring, it does not look like the reſt during that Seaſon, but is a continual Blemiſh; whereas thoſe which we order to be planted in this Part of *October*, will ſtand the Winter in ſufficient Health, and when the Spring comes will ſhoot out their Leaves uniformly with the reſt, and flower at the Seaſon that Year; in all Things agreeing with the others, and appearing a regular Part of the Plantation.

SECT. II.

The Buſineſs of the SEMINARY, *for the Middle of* October.

IT is not only in the Garden this Work of Plantation is to go on at the preſent Period: a great deal is to be done of the ſame Kind in the Seminary.

Laſt Week we directed the Ground to be prepared for it; and now we come to the Buſineſs of the Plantation.

The Preparation to be made in the Nurſery is of two Kinds; Part is directed to the Service of the Fruit-Garden and Orchard, Part to the Wilderneſs, and other Plantations of that Kind, in which Beauty is conſulted more than Uſe.

For the Fruit-Garden and Orchard Stocks muſt be now planted, for grafting and budding.

It is a common Cuſtom, for the Sake of ſaving a little Trouble, to buy the Trees of Nurſery-Men; but we adviſe ſuch as are curious in their Fruit, to take Care they deal only with thoſe of Reputation, and always to enquire upon what Stocks they have been propagated.

It is a yet better Method to raiſe the Stocks for this Uſe; for then there can be no Miſtake: and of this the Gardener may be aſſured, that the Taſte and Flavour of the Fruit will always be influenced by the Stock.

The moſt plain Inſtance of this, is in the raiſing of the Nonpareil by grafting. If two Nonpareil Shoots be grafted at the ſame Time, the one upon a Paradiſe Stock, and the other upon a Crab, and both planted, purpoſely for the Trial, upon the ſame Ground, and with all the ſame Advantages, the Difference in the Fruit will be ſo great, that, unleſs from the Shape and Colour, none would believe them to be the ſame.

The Crab Stock will give a ſour harſh Taſte to the Apple beyond Thought.

This is a Subject we ſhall treat more at large hereafter; but thus much is needful to remind the Gardener, with reſpect to what Stocks he now plants out in his Seminary.

There are various Stocks of the Apple Kind proper for Apples; and as the Choice is in many Reſpects equal, it ſhould be directed by the intended Form and Uſe of the Tree: and the Gardener ſhould know which Stock will ſuit beſt for each Form of Growth.

The three principal Stocks we ſhall recommend for this Purpoſe, are the Codling, Paradiſe, and Creeper Apple.

When the Trees are intended for Eſpaliers or Dwarfs, the beſt Stock is the Paradiſe or Codling,

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ling, according to the Nature of the Fruit.

The ſweet mealy Apples ſhould be grafted upon the Codling Stock; and the more rough and auſtere upon the Paradiſe.

This is the practical Method to improve the Fruit from the Nature of the Stock; and let the Gardener, foreſeeing this, introduce this Week Stocks of each Kind into his Seminary, to be in Readineſs.

Beſide theſe, he is to conſider alſo that there will be ſome Apple-Trees required for the Orchard; and theſe it will be beſt to propagate on Crab Stocks, that Kind always making the beſt Standards.

He will ſee by this we are not for baniſhing either Kind; but only for reducing each to its proper Uſe.

Let him, now he ſees the Reaſon of it, be careful to bring into the Seminary, or to remove into Quarters from the Seed-Beds, Stocks of theſe three Kinds for his Apples. They may be raiſed either from Kernels of the ſeveral Kinds, or Layers; but we altogether prefer the former Method.

The ſweet and mealy Apples are the beſt for grafting on the Crab; and there is in every Reſpect an Advantage in this Method: for the Crab Stock not only raiſes the beſt Standard Tree, but it gives a Sharpneſs to the Apple, which fits it for the Service of the Kitchen; that being the principal Uſe of Standard or Orchard Trees.

The beſt Stock for Apricots is the common red Plum, known among Gardeners by the Name of the Wheat Plum. 'Tis the Fault of the Apricot when full ripe to be mealy, and without Flavour; its Fleſh being of a middle Nature, between melting and breaking, and therefore having the Advantage of neither.

We have ſhewn how the Taſte and Subſtance of Fruits may be altered by the Stock on which they are grafted; and thus there is a Way of remedying this Imperfection of the Apricot.

Our Gardeners are not ſo careful as they ought to be of the Kind of Plum on which they graft this Tree.

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If it be on a mealy, inſipid, or ſweet Plum, the Taſte of the Apricot is rendered ſo much worſe than natural: and on the other hand, if this Stock be choſen which I have directed, the Sharpneſs of its Taſte gives a Spirit to the Apricot, and its Fruit is never ſo mealy or inſipid; indeed I never taſted a common Apricot fine when ripe, unleſs grafted on this Plum.

There is alſo a great Advantage attending this Kind of Stock; which is, that it is not too apt to throw out Suckers, as moſt other Kinds; and it is alſo very free from Gum.

For the Peach and Nectarine, the beſt of all Stocks, and indeed the only one that is proper, is the Green Gage Plum raiſed from the Stone.

All Gardeners know the Diſadvantages to which theſe tender Trees are liable, when raiſed here; but of all the Accidents that attend them, I have found the worſt to ariſe from the Nature of the Stock; our People raiſing them upon the Muſcle and Wheat Plum; and in my own Experience I have found, that when raiſed upon the Green Gage Stock, both Peach and Nectarine, even the beſt Kinds of them, thrive well.

They are not ſo ſubject to Blights, and they produce healthy and flouriſhing Trees.

For Plums of all Kinds there is no Stock equal to the right Green Gage. Some raiſe the ſeveral Kinds from their own Roots at once; but the Fruit is not ſo fine.

Let the Gardener raiſe ſome Stocks from Kernels, as we ſhall direct in its proper Place; and if he have none in the Seminary at preſent, let him bring in ſome from an honeſt Nurſery-Man, to plant with the reſt at this Seaſon.

Theſe are the Kinds to be planted in their ſeparate Quarters in the Seminary this Week. Let them be ſet with Regularity, and allowed a good Diſtance.

In the ſame Manner let there be a Plantation made of the ſeveral other Trees, from which they may be next removed into the Places where they are to remain in the Wilderneſs, or in the proper Quarters of the Garden.

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SECTION III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

Fruits now in their Perfection.

THERE is one Cherry of this Seaſon, the Morella, it is commonly uſed for Tarts, or in Brandy; but when it has hung thus long upon the Tree, and is well mellowed, it is in the Opinion of thoſe, who are beſt Judges of Fruit, ſuperior to moſt other Kinds.

There is alſo a Merit in the Lateneſs of the Seaſon, for Fruit at any Time is acceptable, when the other Kinds are not to be had.

Mulberries continue very good if they be carefully picked; but in this there is more Nicety to be obſerved than in gathering almoſt any other Fruit.

There is but one Period at which the Mulberry

berry is fine: this is juſt as it grows ripe. Before this it is ſour, and afterwards the Mellowneſs takes off the Flavour.

A ſkilful Gardener will find it difficult to pick off a Diſh for a Deſert, from ſeveral Branches of a Tree: but it is a Thing he ſhould leave to no other Perſon.

We are to uſe every Art now to make up the Deſert, and to take in every Article. The Nut Kind continue good.

The red and white Filbert ſhould be ſent up, carefully pick'd from worm-eaten or decay'd ones: they differ in nothing but the Colour of the thin Skin, which ſurrounds the Fruit, as the red and white Bean.

There are alſo at this Time three Kinds of Hazel-Nut, that will make a pretty Variety in the Deſert.

The *Spaniſh* and the *Lombard* Nut have Shells as thin as the Filbert, and they bear well in our Gardens.

The Cob-Nut deſerves alſo a Place for the Bigneſs; but the Shell is thick and hard to break.

The ſhort blue Fig is now very good. It is a middle-ſiz'd one, of roundiſh Shape; the Skin is thin and blue, and the Fleſh red and rich. One Advantage of this Kind is, that the Seeds are very ſmall.

The *Genoa* is another Fig very good at this Seaſon. It is of a longiſh Shape, and of a dark purple Colour, and is one of the largeſt Figs we have. The Pulp is Blood-red, and very rich, but the Seeds are numerous and large.

The Green Fig is the oppoſite of the *Genoa*: it is round like a Button, ſmall, and always green on the Outſide; but the Fleſh is of a fine red, and it is very well taſted, though not ſo rich as the preceding.

The Currant Grape now makes a fine Shew upon the Bunch. The Cluſter is ſmall, and the Berries are longiſh. They ſtand cloſe preſs'd together, and they are black, but covered with a fine blue Powder, better and more delicate than that of the fineſt Plum. The Berries of this ripen ſo regularly, that the Bunch may uſually be ſent entire to Table.

The *Alicant*, which ſome call the *Spaniſh Grape*, is the contrary of this. The Bunches are very large, and the Berries alſo are large, but they hang ſtragling.

They muſt alſo appear more looſe hung than they naturally are by that Time they get to the Table; for many of the Berries are quite green uſually, when others are ripe: theſe muſt be pick'd off before the Bunch is ſent up; but the Goodneſs of the Grape makes amends for the Look.

Of the Peaches there is one now in its Perfection, and it is a very good one for a late Kind; this is the *Perſique*, call'd by our Gardeners, The *Late Admirable*.

It is a very large Kind, of a round Shape, and terminated by a little Point. Its natural Colour is a pale green, but it gets a good deal of red on the ſunny Side when the Seaſon is favourable.

The Fleſh is, in general, whitiſh, but red in the Centre. It parts freely from the Stone, and is very well taſted. With this we ſhall cloſe the Catalogue of the preſent Week.

CHAP. II.

The Care and Management of Fruit-Trees.

AS we have directed the raiſing ſome Kinds of Stocks for Fruit-Trees, from the Kernel, we are to remind the Gardener that now is his Time for preparing for that important Article.

The Stones of the Green Gage and Red-wheat Plum ſhould now be preſerved againſt the Time of Sowing.

To this Purpoſe, fill a deal Box, one third Part with Sand; ſtrew a Quantity of the Stones upon it, and cover them with more Sand: then ſtrew on more Stones, and upon them more Sand.

In this Manner the Box is to be filled up, but it is a good Rule never to let there be more than three, or at the moſt four Layers of the Stones, and to let the upper one be covered three Inches. In this Manner they will very well keep till the Spring; but for Fear of Vermin there ſhould always be a Trap or two ſet about the Box.

This Preparation being made for raiſing new Trees, let the Gardener come to the Uſe of his old ones.

Let him this Week prune the Apricots and Nectarines.

The Generality of Gardeners look upon the Method of pruning the Peach, Nectarine and Apricot to be juſt the ſame; but there is a Difference in Nature, which ſhould make a Diſtinction in their Practice.

In pruning the Apricot let particular Regard be had to the Autumnal Shoots, and to the Collateral ones, from the Sides of thoſe of the ſame Summer's Growth; for thoſe on the Apricot have fewer Buds at firſt than thoſe of the Peach; and they are alſo more liable to be killed in Winter.

When the Autumnal Shoots proceed from the Ends of others, let the Gardener look for the Joint. This he will eaſily diſcover by the Difference of Colour, and let him take it off juſt below. This depends upon a certain Obſervation, That the Part above is very likely to fail, and the Part below will always bear.

Where there grow Autumn Shoots from new Horizontals, in Places where Bearers are wanted, they muſt be nail'd up to the Wall without ſhortning, for that uſually kills the ſmall Branches of the Apricot.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Products now in Seaſon.

WE have declar'd againſt the vulgar Method of repeating every Week to the Gardener the Names of thoſe common Products of the Kitchen-Ground, which the meaneſt Labourer muſt know, as well as ourſelves, to be in Seaſon; and we have therefore only to obſerve here, that Muſhrooms, which begin to be ſcarce from the Fields, continue abundantly to be ſupply'd from the Beds made and manag'd as we have directed; and that for thoſe who have their particular Taſtes, there are Skirrets, Scorzonera, and *Spaniſh* Radiſhes. There are alſo Parſley-Roots, Cardoons, Finochia, and Celeri; and the Cauliflower Broccoli, Borecole, and Turnep-rooted Cabbage.

CHAP. II.

The Care and Management of the Kitchen-Garden Ground for this Week.

WE mentioned in the laſt Week the preparing for a Hot-Bed, to raiſe Winter Aſparagus, and it is now fit to direct the Gardener in the Management of it. We ſuppoſe him, on that Intimation, to have got ready a ſufficient Quantity of new Dung, and to have laid in a Heap for a Week to ferment. He is now to enter upon the Uſe of it.

The Earth is to be open'd to the Breadth of a common Frame, and the Length of two, three, four, or more, according to the Quantity of Aſparagus intended to be rais'd in this Opening of the Ground. The Dung is to be laid; and pil'd up in an even and orderly Manner, to the Height of forty Inches. Let the Surface be laid ſmooth, and beat even, and then ſpread over it a Covering of the richeſt Mould from the Garden, eight Inches thick.

Lay this perfectly even, give it a little ſprinkling of Water, and then bring in the Roots for planting.

The Aſparagus Roots, for this Purpoſe, muſt be two Years old from the Seed-Bed, and in perfect good Order and growing Condition; for a Fault in that Point can never be mended.

A Ridge of Mould muſt be rais'd a Finger's Length in Height, and againſt this the Aſparagus Roots muſt be planted evenly, and ſo cloſe as to touch.

Their Bud muſt be plac'd carefully upward; and when all the Roots are thus planted, there muſt be a Covering of three Quarters of an Inch of the ſame fine Mould ſifted over them.

The Roots being thus planted, the whole Care is to keep the Bed of a moderate Degree of Heat, for they will come to no good, if that be either too much or too little.

Every Gardener knows how to try this, by means of a Stick. This muſt be above a Yard long, and ſharp-pointed; and it muſt be thruſt down perpendicular into the Centre of the Bed.

At Times it muſt be pull'd up, and the Bottom of it muſt be felt in the Hand.

If the Bed be too hot, a thick Stick muſt be thruſt into it ſideways, in ſeveral Places; and Openings thus made to let in the Air, and let out the Steam: this will ſoon reduce the Heat to a due Degree.

If the Bottom of the Stick be not hot enough, lay ſome freſh Litter up againſt the Sides: this will ſet it to fermenting, and the Stick will ſhew how the Heat encreaſes to a due Degree.

When the Bed is too cold, it muſt be well cover'd; and, when too hot, it muſt have a great deal of Air.

The Bed being thus brought to its due Temper, the Roots will begin ſoon to ſprout; and the whole Care then lies in Earthing the Shoots ſufficiently.

As ſoon as they begin to appear above the Surface, another Covering of two Inches of the ſame fine Mould muſt be ſifted over them; and when they have riſen to the Top of that, there muſt be a freſh Parcel of two Inches and a half more. Thus there will be ſix Inches and a half of Mould above the Roots; and ſhooting thro' this, they will be of a due Length for cutting.

The Frames muſt be rais'd to the proper Height; and in bad Weather the Glaſſes muſt be covered with Mats or Cloths. In this Manner the Aſparagus will riſe in Abundance, and will be as good as any Art can make it at ſo unfavourable a Seaſon: but, at the beſt, 'tis very mnch inferior to what riſes naturally in the Spring.

This Method differs in ſeveral Particulars from what is commonly practis'd; but Experience ſhews it to ſucceed better; and we have therefore given it in the Way we have found moſt ſucceſsful.

EDEN:

A COMPLEAT BODY of GARDENING.

NUMBER VIII.

For the Third Week in *OCTOBER.*

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. GOLDEN FOX-GLOVE.

Octob. P. VIII. Fig. 1. FEW Plants better deſerve than this their Place in the Collections of the Curious: not only the Flowers and Leaves have their Beauty, but the very Stem and Branches.

The Flowers, tho' ſingular in their Form, retain ſo much of the *Fox-Glove* Character, that notwithſtanding the Difference in their Opening, and the Diverſity of their Manner of Growth, moſt Authors who have nam'd the Plant have refer'd it to that Genus.

PLUKENET calls it *Digitali affinis:* and COMMELINE, *Digitalis Acanthoides*, led to this by the peculiar Shape of the Flower, ſomewhat reſembling that of the *Acanthus*, deſcrib'd in our Fourth Number.

The Gardeners call it *Matera*, its *Indian* Name. LINNÆUS, when he publiſh'd the *Cliffort* Garden, rank'd it with the *Geſneria*; but, upon more Examination, he ranges it in his *Species Plantarum* with the *Digitalis*; and calls it, in Diſtinction from the others, *Digitalis calycinis foliolis lanceolatis corollis bilabiatis acutis caule fruticoſo:* Shrubby Fox-Glove, with the little Leaves at the Cup lanceolated; and with the Flowers bilabiated and acute.

Our Deſcription of the Plant will make theſe Terms of LINNÆUS familiar, and better ſupply the Place of a dry Explanation.

Octob. The Plant is two Foot high: the Root is brown, divided and ſpreading; and the main Stem is purpliſh. This is of a woody Hardneſs, and ſends out, with good Culture, ſeveral Branches. They have a red Bark, but obſcur'd by a white Cottony Matter that hangs looſely over them.

The Leaves are numerous, and have no Foot-ſtalks. They are long, ſharp-pointed, ſerrated, and of a freſh green Colour, which a light Hairyneſs renders greyiſh and ſilvery.

The Flowers are large, and plac'd in long and crowded Spikes: they are ſo divided as to mimick the labiated Form; and their Colour is a bright and pure gold yellow.

Each Flower has its ſeparate Cup, and that is divided into five Segments, of which the uppermoſt ſtands ſeparate from the others; and is narrower and more pointed. In the Middle of the Flower are plac'd four Filaments, of which two are longer than the others, and in their Centre ſtands a ſingle Style.

The Flower falling, there appears an oval Seed-veſſel, in which, when ripe, are contain'd many ſmall Seeds in two Cells.

We have before acquainted the Student with the Fourteenth Claſs in the LINNÆAN Syſtem: it comprehends thoſe Plants in whoſe Flower there are four Filaments; two longer, and thence conſidered as more eſſential in the Impregnation of the Seeds, than the others. The Title is *Didynamia*; this Plant belongs to it. And as the Seeds have a Capſule, it is referred to the ſecond Section of that Claſs, the *Angioſpermia.*

It is a Native of the *Canary Iſlands*, where it grows in rotten Soils that have ſome Shelter. It there flowers all the Year, and with good Management will do nearly the ſame with us.

Moſt Flowers contain in their Baſe a Honey Juice: but this ſhews ſomething of that Kind more diſtinguiſhably than almoſt any other; but under a particular Condition. Where it is a Native, there continually ſtands in the Centre of each Flower a large Drop of a clear clammy Liquor of an extremely bitter Taſte. With us the Drop is ſmaller, but it has the ſame Bitterneſs; and when at its full Bigneſs it will drop from the Flower. This is particular, but the whole Plant is bitter.

Culture of the Golden Fox-glove.

Nature, and a Knowledge of its proper Soil in the *Canaries*, teach the Gardener how he is to manage this Plant.

It is to be raiſed from Seeds; and thoſe ripen'd in *Europe* will produce it: but as on all other Occaſions, when there is Opportunity of having them from the natural Place of Growth it is better.

Which ever Way they come, they muſt be ſowed early in Spring upon a moderate Hot-Bed, and raiſed by the common Culture given to Plants ſo propagated, all that is particular is the Soil.

This the common Writers on Gardening order to be light and ſandy; and it is therefore the Plants with us never reach fully their natural Size or Beauty.

When they have ſome Strength in the Seed hot Bed they muſt be planted out into Pots, and theſe ſet in another hot Bed, that they may the more freely root, and ſend up new Shoots from the Sides of the original Stem; for if that be prevented now by a careleſs Management, they will ſometimes run up with a ſingle Stalk, and loſe much of the Beauty.

They muſt in this new hot Bed be ſheltered from the Sun, till they have taken Root; then expoſed by Degrees to the Air; and at laſt having been removed into larger Pots, they are to be ſet among the Green-houſe Plants for Summer, and houſed with them in Winter.

The proper Soil for them is that which will come neareſt what they have in Nature; and this is to be made of Garden-Mould, Wood Earth, and Pond or River Mud.

Various Trials have ſhewn, that there is no better Proportion for their Mixture than to allow equal Parts of each; and in this they will with frequent and moderate Waterings flower as in their natural Climate, from *June* till this Seaſon, or later.

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2. WHITE CEYLON PLUMBAGO.

P. VIII. Fig. 2.

The Singularity of this Plant has given it a Place in many Gardens, and it is very worthy to be received into all.

Its Reſemblance to the Lychnis Kind has occaſioned ſome Writers to refer it to that Genus; but by the more correct it is aſcribed to the Plumbago, whoſe Character it perfectly poſſeſſes.

Commeline has called it *Lychnis indica ſpicata Ocymaſtri foliis.* The great *Engliſh* Naturaliſt Sir Hans Sloane, calls it *Dentillaria Lychnoides.*

Dentillaria is a Name given by many to Plumbago; therefore he referred it to its right Place.

Linnæus and Van Royen join in calling it *Plumbago foliis petiolatis:* Plumbago with the Leaves on Foot-ſtalks: the lower Leaves having this Character, though on the upper Part of the Plant, and near the Flowers, they are often Seſſile.

The Plant is two or three Foot high, and has a wild but not unpleaſing Irregularity in its Manner of growing. The Root is thick, divided, brown; and to the Taſte violently acrid, and as it were burning. The Stalk is ſlender, green, and divided often into three or four Branches. The Leaves are large, and both their Form and Colour are pleaſing; they are broad and divided, and of a ſhining green.

The Flowers ſtand at the Tops of all the Branches in long looſe Spikes, and have a ſingular Appearance. They are large, and of a ſnowy white, and thence are not without their Beauty; but their Form and Manner of Growth excite the Attention more.

Each has its Cup, which is oblong, extremely rough and hairy, of a tubular Form, marked with five Ridges, and divided at the Top into as many Segments.

From this runs out the Flower in Form of a long and ſlender Tube, ſpread wide at the Top, and there divided into five oval Segments: in the Centre of the Flower ſtand five ſlender Filaments, with oblong little Buttons; and among them riſes a ſingle Style. The Cup remains after the Flower is fallen, and ſerves in the Place of a Seed Veſſel, containing a ſingle oval Seed.

The Number of Filaments, and their regular Growth and Diſpoſition ſhew the Student to what Claſs this Plant belongs in the Linnæan Syſtem. His fifth is called Pentandria, becauſe there are in each Flower fine regular Filaments; and this is one of thoſe Plants.

The firſt Section of that Claſs comprehends the Monogynia, or thoſe which have the female Part ſingle; and the Style in this Flower being but one, ſhews it to belong alſo to that Subdiviſion.

The

Octob. The Plant is a Native of the *Eaſt* and *Weſt-Indies*, where it flowers all Summer; and it will live with us and flower abundantly, if allow'd a proper Soil, and the common Culture given to the Natives of thoſe warmer Climates.

Culture of the CEYLON PLUMBAGO.

As the Root is perennial, the Plant may be propagated from its ſeparated Parts; where it is once well eſtabliſh'd: but it muſt firſt be rais'd from Seeds. Theſe do not often ripen in *Europe*; and as they may be eaſily obtain'd from *Jamaica*, 'tis beſt to depend on them at home.

Early in Spring they muſt be ſown upon a moderate Hot-Bed.

When the Plants are riſen to a little more than two Inches, they muſt be tranſplanted into another Hot-Bed, at four Inches Diſtance; and when they have in this acquired a conſiderable Strength, they are to be planted out into ſmall Pots.

Common Garden-Mould ſerves for the Covering of the two Hot-Beds; but for the Pots there ſhould be prepar'd an artificial Soil, ſuch as the Plant naturally loves: this muſt be light and mellow. It may be very well compos'd of River-Mud and Wood-Earth, each equal Quantities, and half the Quantity of one of them of Cow-Dung. This being mix'd and mellow'd in Time, muſt be put into the ſmall Pots, and one of the Plants ſet in each. Octob.

Theſe muſt have a very light and careful Watering, and then they muſt be ſet nearly up to the Tops of the Pots in a Bark-Bed, to make them ſtrike Root freely, and puſh Fibres for a good Growth.

From this Place, when very well eſtabliſh'd in their Pots, they muſt be remov'd into a Frame with a Glaſs Cover, and there, by Degrees, inur'd to the Air.

After this, larger Pots muſt be prepar'd for them, and they muſt be carefully planted into theſe in the ſame artificial Soil; and here they may remain.

They are to be ſet out among the Green-houſe Plants in Summer; and hous'd in Winter in the Stove. They will, under this Management, flower happily, and the Singularity will render them very agreeable.

3. VELVET BINDWEED.

P. VIII. Fig. 3. We raiſe, for the Decoration of our Gardens, various Kinds of *Bindweed* or *Convolvulus*, and there is not one of them without its Beauty; but the Plant here propos'd to the Reader excels all by its vaſt Growth, and its perpetual Verdure.

The Characters of this Genus are ſo ſtrongly mark'd upon all the Plants, that none have refer'd this to any other.

PLUKENET has call'd it, *Convolvulus Canarienſis foliis longioribus mollioribus & incanis.* LINNÆUS, *Convolvulus foliis cordatis pubeſcentibus caule perenni villoſo pedunculis multifloris:* Perennial hairy-ſtalk Bind-weed, with downy heart-ſhap'd Leaves, and many Flowers on the ſame Foot-ſtalk.

This laſt Character is, however, uncertain; for tho' the Flowers often grow cluſter'd in that Manner: they ſometimes ſtand ſingly.

The Root is thick, divided, furniſh'd with many Fibres, and ſpreading.

The Stalk is round, hairy, and naturally purple: it riſes, where it can climb, to the Height of twenty Foot, and covers its Support with innumerable Leaves and Branches.

The Leaves are plac'd alternately, and they are of a diſtinguiſh'd Elegance. They have long rediſh Footſtalks, and their Shape is heart-like: they are broad and lightly indented at the Baſe; wav'd at the Edges; and ſharp-pointed.

They are of a pale but not unpleaſing green, thick-covered with a greyiſh ſilvery Down. This gives them a hoary Aſpect, very pleaſing to the Eye; and to the Touch a Softneſs equal to that of Velvet.

They appear various, according to their Age; for the Plant is covered with them at all Seaſons. Toward the Bottom they are often red, as they decay; and on the reſt of the Plant a Part of them are ſofter and paler; theſe are the younger ones; and a Part of longer ſtanding, duſkyer in their Colour, and to the Touch more harſh.

On theſe laſt the Ribs and Veins are moſt conſpicuous, and they are often purpliſh.

The Flowers are large, and where the Plant is well eſtabliſh'd, very numerous.

Some ſtand ſingly, others five, ſix, or more, together: and their Colour is a ſnowy white, more or leſs ting'd with red.

Their Form is broad, and ſpread out like a Bell. Each is form'd of a ſingle Petal, expanding from the Baſe into this wide Rim, and folded in various Places. It ſtands in a ſmall Cup, divided into five light Segments; and in its Centre riſe alſo five ſhort Filaments, crown'd with oval flatted Buttons. The Style is plac'd ſingle among theſe, but is ſplit at the Top; and the Seeds are contain'd in a divided Capſule.

The Botaniſt, while he admires the Beauty of this Flower, will ſee in its Filaments and Style the Place it claims in the LINNÆAN Syſtem. It is one of the firſt Section of his Fifth Claſs, the *Pentandria Monogynia*, explain'd in the preceding Article.

It is a Native of the *Canary Iſlands*; but it will live and flower, with moderate Care, in our Climate. There it delights in woody Places, and aſcends, as Ivy, the talleſt Trees: with us it muſt be ſupported by Poles properly planted; and Prudence directs the reſtraining of it far within its natural Limits.

Culture of the Velvet Bindweed.

It is a Green-houſe Plant, free to the Air in Summer, and only requiring Shelter againſt Froſts: and it may be rais'd from Seeds, or propagated by laying the Branches.

The former Method raiſes the fineſt Plants, when the Seeds can be obtain'd in their Perfection: but the other furniſhes very good ones, and they will ſooner come to flower.

If the Seeds are prefer'd, they muſt be had freſh, and the Plants rais'd, as we have directed for the *Plumbago*, juſt deſcrib'd, in Hot Beds.

In the other Method little Time is loſt, for the Branches take Root eaſily. They muſt be laid in *March*, covered four Inches with Earth, and aſſiſted in Rooting by frequent Waterings. In the *September* following they may be taken from the Mother-Plant.

Each of theſe muſt have a large Pot. The Soil that our Experience has ſhewn beſt to ſuit them, is this: Mix three Barrows of light Earth taken from under the Turf in a high Paſture, with two of Wood-pile Earth, and one Buſhel of Sheep's-Dung. Time mellows and prepares theſe Mixtures; and as there is always Notice of their being wanted, the Advantage ſhould be taken.

Let the prudent Gardener, at the ſame Time he lays the Branches of this Plant, pile up in an open Place this Mixture. Let him once in a Month break and turn it; to deſtroy Weeds, and open it to the Rains and Dews; and by that Time his Layers are fit to be remov'd, it will be well mellow'd, and fit for their Reception.

In the Centre of each Pot muſt be ſet a Pole, ſeven Foot in length, and taper to the Top; and the great Care will be to ſecure this firmly.

Then plant a Layer in the Pot; ſo placing it that the rooted Part lie free, and be very well cover'd; and the Shoot riſe near the Pole.

Let the Pot be fill'd within an Inch with this Soil, and the young Shoot ty'd up to it with a Piece of green Worſted. Then give it a gentle Watering, and place it in the Shade; defending it continually from the Sun, and frequently repeating the Watering till it has taken very good Root.

After this place it among the Green-houſe Shrubs for the ſhort Remainder of the Seaſon they are to ſtand out; and afterwards remove it under Shelter with them.

No more than the common Care of theſe Plants will after this be needed: it will make its own Way up the Pole; and when it can riſe no higher, will ſend out the more Branches.

A Year from the planting it out, it will flower, and continue to do ſo abundantly.

This is an Advantage of the Layers over the Seedlings; for they ſometimes do not come to flower before the fourth or the fifth Year.

4. TRIFOLIATE ERYTHRINA.

P. VIII. Fig. 4.

Few of the Species we cultivate with our beſt Care, deſerve the Labour and Attention more than this; diſtinguiſh'd for its Beauty even by Savages; and celebrated by ſome peculiar Name, importing its Luſtre or its Singularity in almoſt every known Language.

Our People call it the Coral Tree, a Name given it from the high red and gloſſy Surface of the Flowers, reſembling poliſh'd Coral.

The common Writers, after *Caſpar Bauhine*, have called it *Coralia* and *Siliqua Sylveſtris Spinoſa*. Commeline, and ſome others, *Coral Arbor:* Tournefort, and his Followers, *Corallodendrum:* and Linnæus, and with him the later and more correct Botaniſts, *Erythrina*; a Name deriv'd from the *Greek*, and expreſſing in the ſame Manner as the other, the fine red of the Flower.

In other Nations it is call'd by Names expreſſing the Scarlet Tree, the Elephant Tree, and Coral Bloſſom.

It grows naturally to a conſiderable Height; and with us forms a tall and very elegant Shrub.

The Root is divided, ſpreading, and full of Fibres.

The Stem is brown, and its Wood brittle. The Branches are numerous, and variouſly ſpeckled; and their Bark is grey.

They are arm'd with ſharp and fine Thorns.

The Leaves are handſome in themſelves, and very beautifully diſpos'd. Three grow on every Footſtalk, and they are of a Heart-like Shape, broad, and lightly hollow'd at the Baſe, and terminated by an obtuſe End.

Their Colour is a very bright green on the upper Side, and a paler green underneath, and they are ſtrongly mark'd with Ribs.

The Flowers are very numerous, large, and of the fineſt red; of a poliſh'd Surface, and, in a full Sun, almoſt too gloſſy to be look'd upon.

They ſtand in a very beautiful Manner upon the Tops of the Branches. A great Number ſurround them at certain Diſtances, in circular Cluſters; and theſe riſing above one another to a great Height, form an elegant and very long Spike.

Each Flower is form'd of four Petals, and is, tho' in a very irregular Manner, truly of the *papilionaceous* Kind, conſiſting of a *Vexillum*, *Alæ*, and *Carina*; as we have before explain'd the general Structure of thoſe Flowers which are call'd by this Name.

In this the *Vexillum* is of an extraordinary and immoderate Length: its Sides bend downwards, and the Whole is alſo crooked; its Point turning upwards.

The *Alæ* and *Carina* are extremely ſmall, ſo

Octob. that the upper Petal makes, in a Manner, the whole Flower.

In the Centre riſe ten Filaments: nine of theſe are united in their Bodies, and one lies over them ſingly. Theſe are all crown'd with Arrow-headed Buttons. The Style which riſes among theſe is ſingle.

The Cup, in which the Flower is plac'd, is of a Bell-like Shape, and divided into two Lips: and the Fruit that ſucceeds it is an extremely long Pod, ſwelling out at the Places where the Seeds are lodg'd, and pointed at the End.

The Seeds themſelves are Kidney-ſhap'd, and large.

The Student, who has been already inform'd of the Characters of the *diadelphous* Claſs, the Seventeenth in the LINNÆAN Syſtem, will know this Plant belongs to it; all being comprehended in its Character, which have the Filaments plac'd in two Aſſortments. As the Marks of the Sections are, in that Claſs, taken from the Number of thoſe Filaments, this belongs to the *decandrous* Kind, which compoſe the third Subdiviſion.

It is a Native of the *Eaſt* and *Weſt-Indies*, and there is green throughout all the Year. With us its Leaves fall annually, but they are ſoon renew'd, and very beautiful.

Culture of the TRIFOLIATE ERYTHRINA.

The Seeds of this Species are large, and of a firm Subſtance: ſo that they may be eaſily collected, and will come in a growing Condition into *Europe* with very little Care; and from theſe it is beſt to raiſe it.

Octob. They muſt be ſown in Spring in the uſual Manner, upon a Hot-Bed. When the Plants have ſome Strength, they muſt be tranſplanted into another; and thence into Pots, in which they are to be harden'd by Degrees to the Air during Summer; and at the Approach of cold Weather remov'd into the Stove.

Thus they will riſe, with Care and Patience, into handſome Shrubs.

The readier Way of propagating them is by Cuttings, from ſuch as have been thus rais'd here.

Theſe will freely root if well manag'd; and the beſt Method of doing it is this: let them be taken from thriving Shrubs, planted with Care in Pots, and theſe ſet up to the Rim in a Bark-Bed. Here they muſt be water'd every Day, and ſhaded till they ſtrike Root.

The End of *May* is the beſt Time for doing this.

Half a Dozen Cuttings may be ſet in each Pot; and in the Beginning of *Auguſt* they will have ſhot ſo good Root, that they may be remov'd each into a ſeparate Pot.

Theſe muſt be again ſet in a Tan-Bed, to help their Rooting.

They are now to be conſidered juſt as Plants raiſed from Seed, and to be treated every Way like them.

The Stove muſt preſerve them from the Severity of our Winters; and about the third Year they will flower: ſometimes ſooner.

The Soil I have found beſt to ſuit with this Shrub is this: Two Parts dry Paſture Earth, and one of rotten Garden-Mould: and I have found that, tho' nothing is ſo beneficial to it as frequent Watering, yet it muſt be a little at a Time, for otherwiſe it is deſtructive.

5. CRIMSON PENTAPETES.

P. VIII. Fig. 5. All who have written of this Plant, have celebrated its Beauty; but few have known where to place it, or by what Name to call it.

The Reſemblance it bears to the Mallow Kind, has cauſed PLUKENET and RAY to range it among the *Alceæ*; and the Form and Luſtre of its Flower led COMMELINE to call it a *Blattaria*, or *Moth Mullein*.

BREYNIUS has join'd with RAY and PLUKENET in calling it an *Alcea*: and RUYSCH and KIGGELARIUS, in their Commentaries upon that Author, ſay it is evident, *Luce meridiana clarius*, that it belongs not to the *Blattaria*, but *Alcea* Family.

Mr. MILLER has avoided Cenſure on this Head, by not naming the Plant, tho' an Ornament to the *Dutch* and *French* Gardens, and not wholly unknown in our own.

All have err'd about it till the Time of LINNÆUS. He has indeed ſhewn, *Luce meridiana clarius*, that it belongs neither to the *Blattaria*, *Alcea*, or any other known Kind, but ſtands diſtinguiſh'd by peculiar Characters; and he has nam'd it *Pentapetes*: diſtinguiſhing it farther by the Addition of *Foliis haſtato lanceolatis ſerratis*: *Pentapetes*, with haſtato-lanceolated and ſerrated Leaves.

This Compound Term is very expreſſive of the peculiar Form of the Leaves, and will be better underſtood from their Shape, in our annexed Figure, than from any Explanation in Words.

The Plant grows with a pleaſing Wildneſs, to the Height of two or three Feet.

The Root is fibrous. The Stalk is rib'd, and of a greyiſh green, freſher toward the Top, and at the Bottom often purpliſh. It is of a firm Subſtance, and ſends out numerous Branches.

The Leaves are plac'd irregularly, and they are very numerous.

Their Colour is a deep but ſhining green, and their Form very ſingular and handſome.

They are broadeſt at the Baſe, long in Proportion to their Breadth, jagged deeply and irregularly at the Edges, and continued to a very long and ſlender Point.

The Flowers are very conſpicuous: they are large, and of a moſt bright and elegant red: they riſe from the Boſoms of the Leaves on the upper

Octob. Part of the Plant, and they have ſlender Foot-ſtalks.

Each is compos'd of five large Petals, and in its Centre fifteen Filaments. Theſe in their lower Part unite and form a tubular Body; and at their Tops are crown'd with upright pointed Antheræ.

Beſide theſe, which are the proper and perfect Stamina or Filaments of the Flower, there are five others, crooked, barren, and of a peculiar Form. Theſe riſe from the tubular Body, form'd by the proper Stamina, and ſtand regularly between threes of them.

The Style is ſingle, and its Top or Stigma thick.

This ſingular Flower ſtands in a Cup, form'd of five ſlender and rough long Leaves, woolly within; and it is ſucceeded by a hard and almoſt woody Fruit, which holds in ſeveral Cells a Number of flat Seeds, edg'd with Membranes.

The Structure of the Flower, while it ſhews plainly that the Plant is neither a *Blattaria* nor an *Alcea*, will at firſt Sight perhaps ſomewhat perplex our Student; but we have told him how to diſpoſe it.

He will remember, that after the Number twelve, the Filaments of a Flower are not counted to mark its Character: for even the *Icoſandria*, tho' the literal Tranſlation of the Word would ſay twenty Filaments, is not limited to that or any other peculiar Number, ſo it be more than twelve: but as the Number is of no Uſe in this Matter, he will remember we have acquainted him this growing together of the Filaments into a Tube, is the Character of a peculiar Claſs, the *Monadelphia*. Octob.

To this Claſs belongs the *Pentapetes*; and as theſe Filaments are numerous, it is of the *polyandrous* Section of that Claſs.

Culture of the CRIMSON PENTAPETES.

It is a Native of *Ceylon*, and of ſome Parts of the *Weſt-Indies*, and naturally grows in rich Soils: this points out the Nature of its Culture, which depends on two Circumſtances, a rich Earth and a due Degree of Warmth.

With regard to the Soil, no artificial Compoſt need be made: the beſt and richeſt Garden-Mould is fitter for the Uſe than any other. The Method of raiſing it muſt be from Seeds, which may be obtain'd from its natural Place of Growth, or from Plants rais'd here from ſuch; for with due Care it ripens them perfectly.

Theſe Seeds muſt be ſown early in Spring upon a moderate Hot-Bed: the Plants muſt be remov'd from that to a ſecond, and from that ſecond Hot-Bed into ſeparate Pots; and theſe muſt be plac'd in a Tan-Bed to root them. After this, they muſt, by Degrees, be harden'd to the Summer Air, and early againſt Winter remov'd into the Stove.

It will flower the firſt Months of Autumn, and ripen Seeds before Winter, while other Flowers are glittering in all their Luſtre in remote Parts of the Plant.

6. SCARLET LANTANA.

P. VIII. Fig. 6. We need not recommend to the Gardener a Shrub with which he is ſo well acquainted, as this. Its Beauty is ſo univerſally acknowledg'd, that few Collections of Exotics are without it.

Its common Name, in the *Weſt-Indies*, is *Wild Sage*; a very wild Term, by which they expreſs alſo ſome other Kinds.

In our Gardens 'tis known by its *Indian* Name, *Camara*.

The generality of Writers have rank'd it with the *Viburnums*; but by the more correct is diſtinguiſh'd under this Name of *Lantana*.

LINNÆUS calls it, *Lantana foliis oppoſitis, caule inermi ramoſo, floribus capitato umbellatis*: Branched and naked-ſtalk'd *Lantana*, with Leaves plac'd oppoſite, and Flowers in umbellated Heads.

The Author uſes the Term *inermis*, in this Name, by way of Diſtinction from *aculeatus*; another Species of the ſame Genus, being arm'd with Thorns.

It is a handſome Shrub, of four Foot high, or more. The Root is woody, covered with a whitiſh Bark, and hung about with Fibres.

The main Stem has a rough greyiſh brown Bark, and is irregular in Shape. The young Shoots are tender, downy, angulated, and often reddiſh.

The Leaves pleaſe the Eye both by their Form and Diſpoſition. They are broad at the Baſe, ſerrated at the Edges, ſharp-pointed, rough on the Surface, of an agreeable pale green, and hairy. They ſtand in Pairs, and they have ſlender reddiſh Foot-ſtalks.

The Flowers terminate all the Branches in great rounded Tufts, and they are naturally of a very elegant Scarlet; but ſometimes, in the ſame Tuft, we ſee ſome of them of this fine and elegant red, others Orange-colour'd, and ſome of a fleſhy Hue, a paler yellow, or a whitiſh.

All the Changes between Scarlet and Orange, and all between either of theſe Colours and white, are common to the Flowers in the ſame Cluſter, in its native Soil; and it retains a great deal of the ſame pleaſing Variety here.

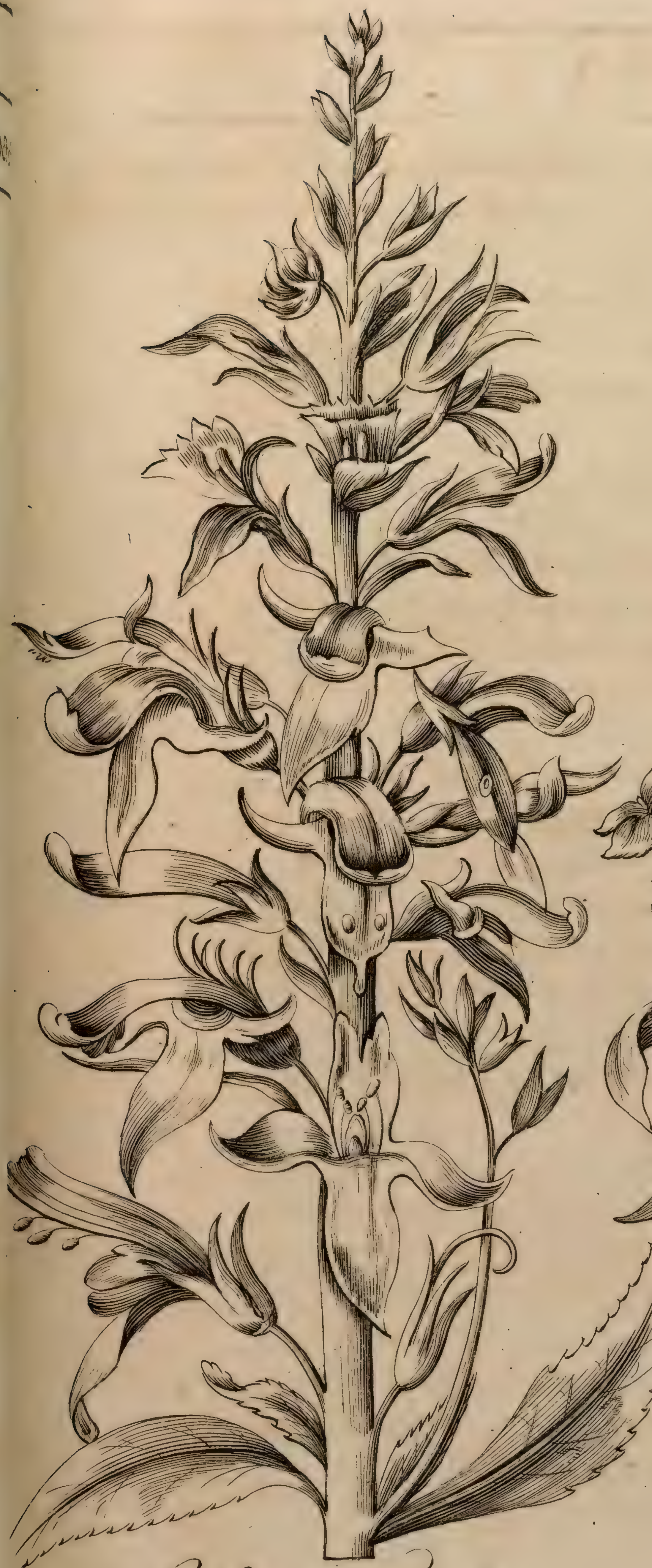
Each Flower, when examined ſeparately, is ſeen to be form'd of a ſingle Petal: this is ſmall and tubular at the Baſe, and at the Rim ſpreads into four broad Segments.

The Cup, in which the Flower ſtands, is very ſhort, of a tubular Form, and lightly dented in four Places.

The Fruit is of the Berry Kind, but dry: it is roundiſh in Shape, and contains a ſingle Stone, in which are two Kernels lodg'd in ſeparate Cells.

The Student who deſires to know the Claſs to which

Pl: 8.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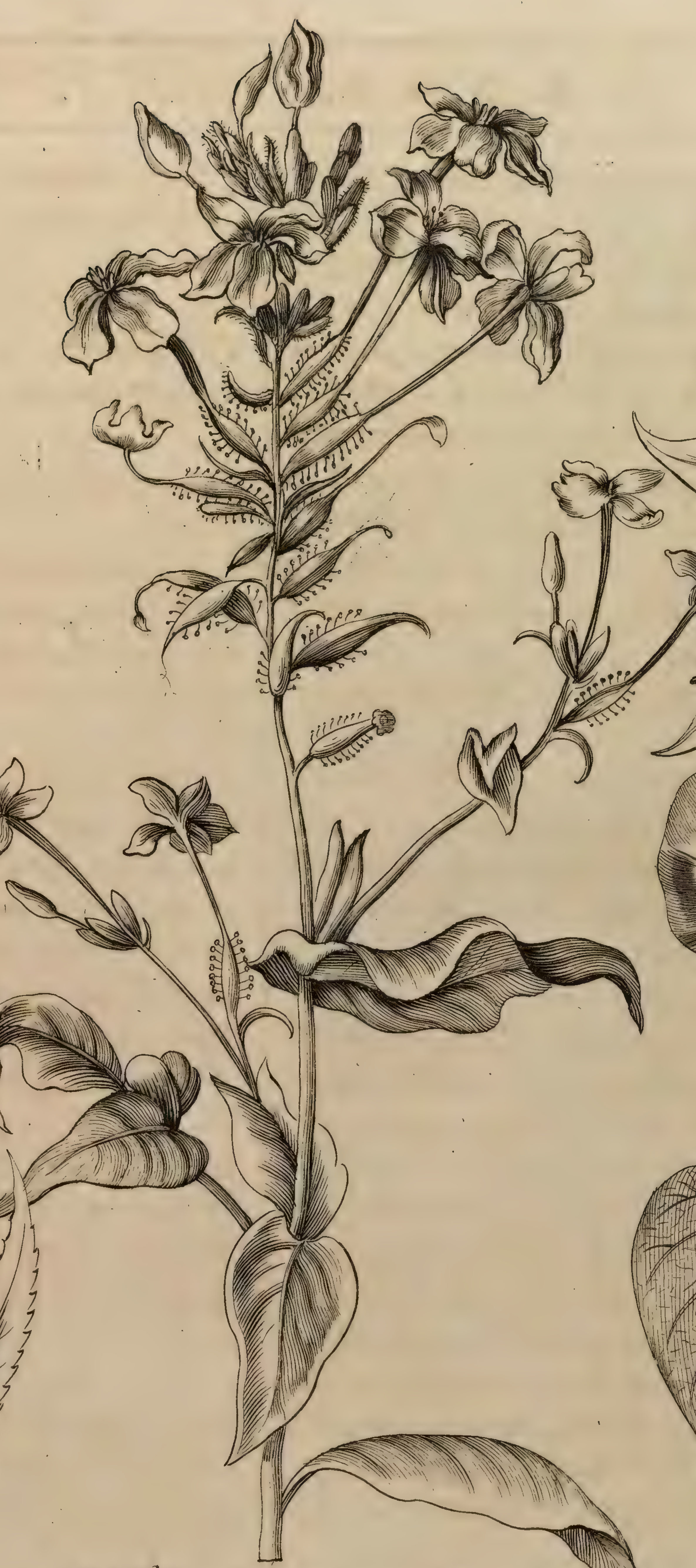
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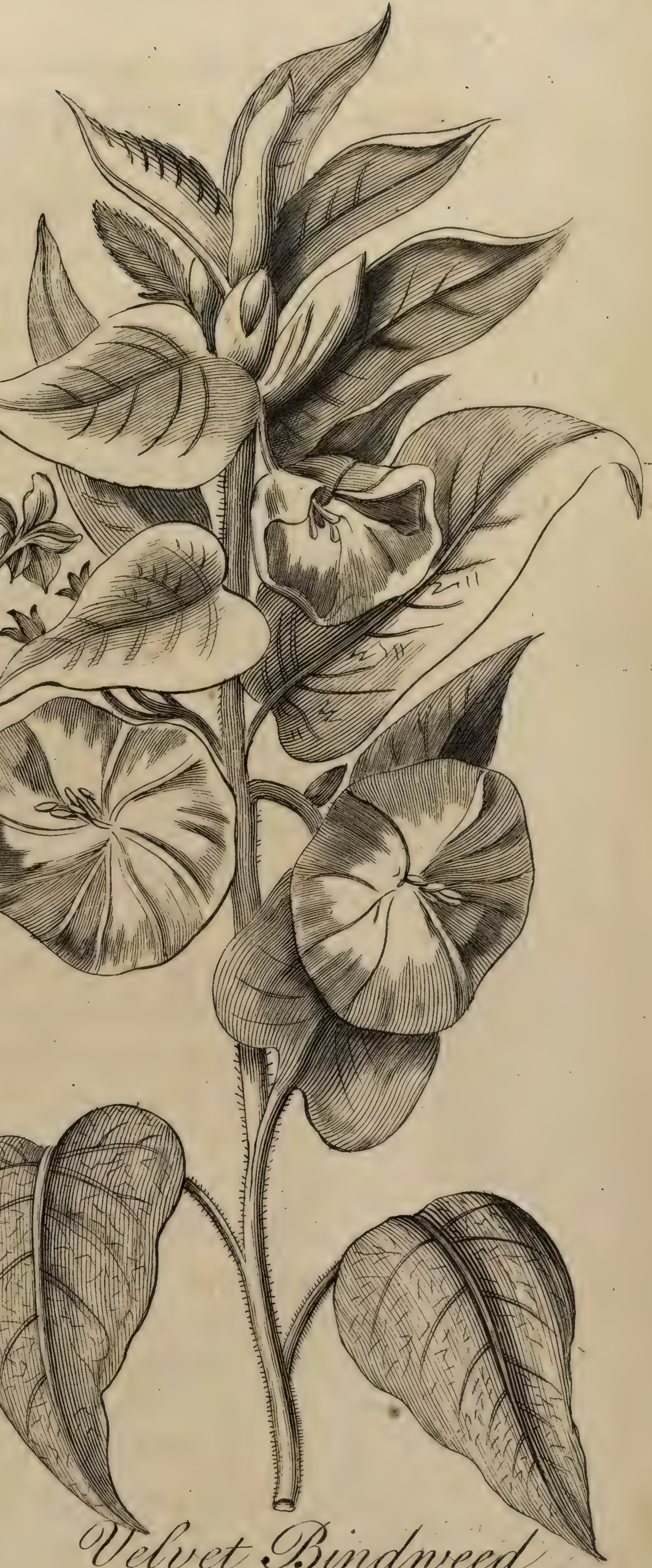
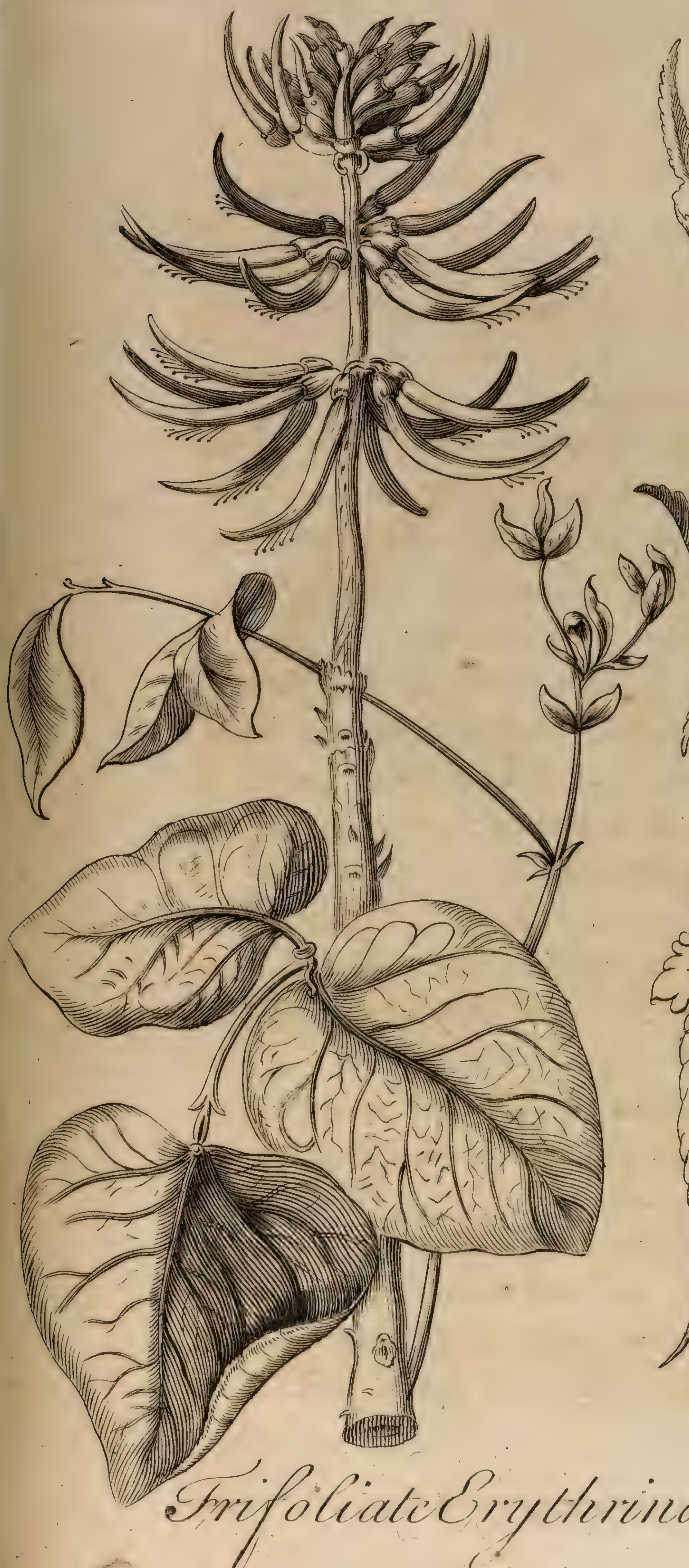

Velvet Bindweed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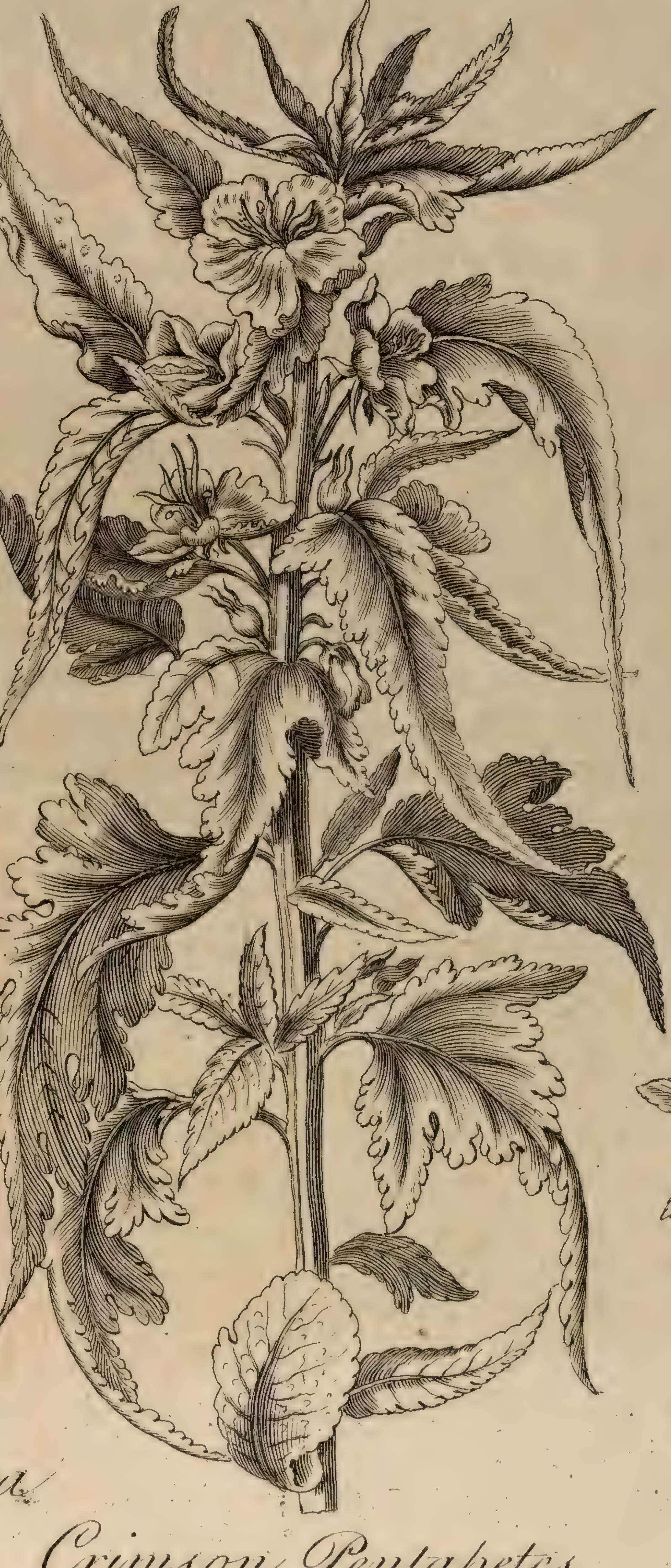
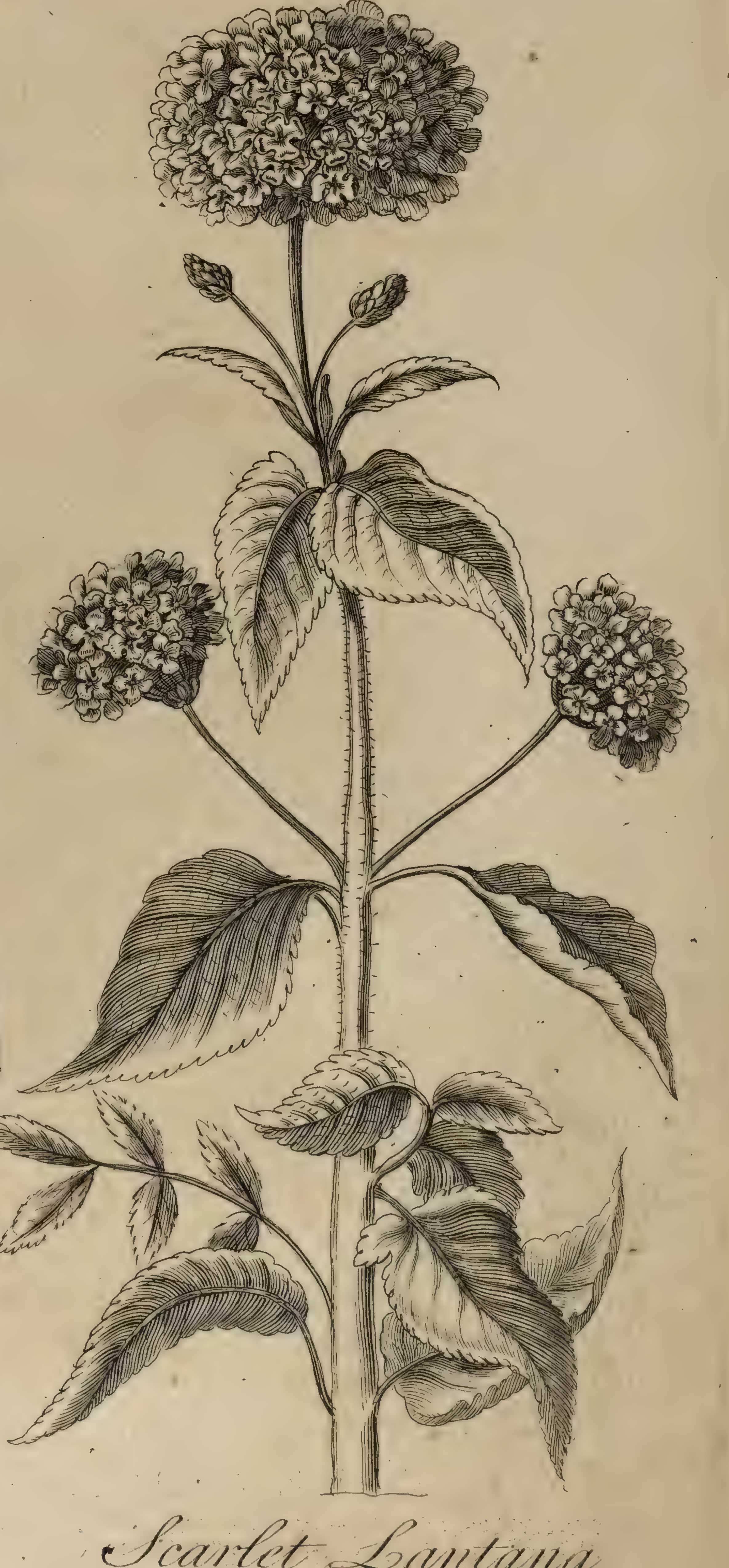

Crimson Pentapetes


Scarlet Lantana call'd Camara

which this elegant Shrub belongs in the LINNÆAN Syſtem, muſt ſeparate a Flower and tear it open, for in the entire State, little is ſeen that could lead him to the Conjecture.

He will find in the Middle of the tubular Part, four very minute Filaments; of which, two riſe higher than the others.

This gives the Claſs: for we have before informed the Student, that when there are in a Flower, three longer and two ſhorter Filaments, it belongs to the fourteenth, or *Didynamious* Tribe.

The Style is ſingle in this Flower, and is very ſlender, and no longer than the Filaments: but nothing can be more ſingular than the Form and Situation of its Stigma. This is placed obliquely on the Head of the Style, and is hooked and ſharp downwards. This is the moſt diſtinguiſhing Mark of the Genus.

Culture of the SCARLET LANTANA.

The Gardener has in this, as in many other Inſtances, his Choice to raiſe the Plant from Seeds or Cuttings: theſe laſt grow freely, and are the moſt expeditious Method; but the Seeds always afford the fineſt Plants.

The Seeds are to be ſown in a hot Bed early in the Spring, and at the ſame Time a proper Soil muſt be prepared for the Reception of his Plants. This ſhould be a Mixture of four Barrows of rich Garden Mould, one of dry and freſh Paſture Earth, and one of Sheeps Dung. While this is mellowing the Plants will riſe.

They muſt be removed from a firſt to a ſecond hot Bed; thence into Pots filled with this Soil; and in theſe they muſt be carried into the Stove, and watered carefully till rooted.

After this, the Summer being well advanced, and the Weather at the warmeſt, they muſt be by Degrees hardened to the Air, and then expoſed to it from the Beginning of *Auguſt* till the Middle or latter End of *September*.

This will give them Strength and Firmneſs; and they are then to be defended in the Stove through Winter.

From Time to Time they muſt have gentle Waterings; and as the ſucceeding Summer advances, they muſt be by Degrees introduced again into the open Air, and finally placed out till Autumn.

The Method of raiſing the Plants by Cuttings differs in nothing eſſential from this. The ſame Soil muſt be uſed, and the Cuttings being planted in Pots muſt be ſet in a Bark Bed, watered and ſhaded to promote their rooting.

From the firſt Pots they muſt be tranſplanted ſingly into others filled with the ſame Soil; and in all Reſpects treated as at firſt till well rooted; and then they are to be managed as we have directed for the Seedlings, when come to the ſame Degree of Strength.

Toward Autumn the ſecond Year they will begin to bud for flowering. The firſt Attempt for this is uſually made in the open Air; and it is to be watched: for on the due Management of this Period depends the Continuance of the flowering. They muſt be watered every Day, and well defended from cold Winds; and when by this Means they have got into a good Way of flowering, they will keep it throughout the greateſt Part of Winter in the Stove, and appear ſecond to very few Things there in Beauty.

CHAP. II.

The Management of the Flower-Garden, for the third Week in October.

THE Borders of the Flower-Garden we left the preceding Week perfectly cleaned, and with the laſt Addition of perennial Plants. Now let the Gardener conſider, whether in any Place beſide there may be any thing added: whether a new Border may be formed; an old one converted to a better Uſe; or in any Part of the Ground an Addition made from the ſame Reſource.

This is the Time for doing whatſoever may be proper in that Way; and ſo much Beauty is to be procured for the ſucceeding Year, by a little Labour now, that it is unpardonable to omit it.

We named in the laſt Week's Account ſeveral hardy Plants fit for this Purpoſe, which it was proper then to put into the Ground; and ſhall here add to that Liſt ſome others which will ſucceed very well being planted now.

Several Kinds of Campanulas, which make a very handſome Appearance in their Seaſon, may be tranſplanted at this Time; as alſo the ſeveral Kinds of Hollyoke, Pionies, horned Poppies, Lychnideas and Roſe Campions, Aſphodels and Spider Wort.

Theſe Kinds properly intermixed will give a happy Variety by the Diverſity of their Heights and Colours, and will alone make a very agreeable Plantation.

The careful Gardener has, when their Leaves decayed at the End of their flowering Seaſon, taken up the Roots of his Martagons, and Orange Lilly, and many other of this Kind, now is the Time for putting them again into the Earth.

The Time they have been out of the Ground has been altogether to their Advantage; and they will now juſt be ready for ſhooting the firſt Fibres toward their ſucceeding flowering.

Next let the Gardener viſit his Beds of Seedlings, for a Succeſſion of bulbous rooted Flowers. Two Things are required: to clear them from Weeds, which would exhauſt the Earth of the Nouriſhment intended for their Support; and to defend them from the Froſts that would deſtroy them. A little Trouble anſwers the Purpoſe in each Reſpect; and though it is ſome Time before theſe Seedlings come to flower, the Number and the Variety of them, when they are arrived at that Condition, amply repays the Trouble.

As for their Preſervation now, the firſt Part is to be effected by pulling up all Weeds by Hand; and this done, ſome fine Earth is to be ſifted over them for the other.

This will cover them from the Inclemency of the Seaſon, and ſtrengthen them in the Ground.

The LILAC is a pretty Shrub, and if kept in due Order has great Beauty in its Time of flowering. The principal Diſadvantage attending it is the great Number of Suckers from the Root; and this is the Seaſon for removing them.

We ſee a Foreſt of theſe about the Roots of Lilacs in ill-managed Gardens; and from this Cauſe the Tree is ſickly, and flowers languidly. The Nouriſhment which ſhould ſwell the Bloſſoms is drawn by theſe Suckers, which are there uſeleſs; but there is not one of them but might make a handſome Tree like its Parent.

This Week take them all carefully off, and have a Piece of Ground in the Seminary dug ready to receive them: plant them ſeparately, and leave them to Time and their own Vigour.

They will only require to be ſometimes cleared of Weeds, and in a few Seaſons they will very amply reward the Labour.

This is a Seaſon, when the Decay of Leaves, on all but Ever-greens begins. For a few Weeks it affords an agreeable Proſpect to the Eye, from the different Colours: ſome fade ſooner, and ſome later; and while one Kind changes its Green for a Yellow, another glows in its Decay with Purple.

The Imagination checks the Pleaſure of the Senſe in this, by recollecting that naked Branches follow.

Painters prefer this various Hue, to the too uniform Green of the perfect Summer; but the Gardener has other Conſiderations.

He ſees the Beauty of his Plantations decaying; and the Verdure of his Graſs, and Brightneſs of his Gravel are in Danger from the ſame Cauſe.

The Leaves will preſently begin to fall, and every one that lies where it falls, leaves a Stain. They ſoon rot, and tinge in their decay every Thing near them.

Leſs Uſe is perhaps made of the Walks at this, than many other Seaſons; but there is at no Time more Care required in cleaning them for this Reaſon.

When all is thus clean'd, planted, and ſecured; we ſhall lead the Gardener to another Part belonging to this Article of Pleaſure. The Management of the Stove and Green-houſe Plants.

We have obſerved under the ſeveral Articles already nam'd, that as the Danger of Cold approaches, many Plants muſt be removed into their Shelter.

We have directed the chuſing a dry Day, for bringing in the tenderer Kinds; cleaning their Stems, their Branches, and the Tubs and Pots in which they are planted.

It will be proper now to look over ſuch again, to ſee if there be any dead Leaves then forgot, or any ſince decayed. Theſe muſt be carefully picked off.

The Moſs we then directed to be taken from the Top of the Earth in the Tubs, and we are now to inſtruct the Gardener to prevent the Growth of more.

This is a Miſchief that very naturally happens where Plants are kept up, and it is of great Damage, as well as of an ill Look.

Let a Mixture of Cow-dung and Coal-aſhes be well wrought together, and ſprinkled over the Surface of the Earth in the Pots and Tubs. It will prevent the Growth of this hurtful Matter, and at the ſame Time ſtrengthen the Soil.

The tenderer Kinds having been thus ſecured and ſtrengthened, thoſe which are a little hardyer and are ſet out, muſt be taken into the Houſe.

Of this Kind are ſeveral of the *African Geraniums*, *Solanums*, *Siſyrinchiums*, and many others. Theſe will be in Danger, if they are permitted to ſtand out when the Nights grow froſty in any Degree.

A particular Care muſt be taken of theſe, for as they will bear the Air longer than others, ſo they require more of it.

When they are houſed, they muſt have as much as can be ſafely given them at proper Times; otherwiſe, they grow ſickly, their Leaves turn yellow, and they not only decay themſelves, but ſpread an Infection among the reſt of the Plants.

They muſt now and then have Water alſo, and they ſhould be cleaned as the others.

All decayed Leaves ſhould be picked off, and the Earth ſtirred lightly on the Surface of the Pots, and ſome of the ſame Mixture of Aſhes and Cow-dung ſprinkled over, and mixed in by breaking them together.

We have directed the taking many of the tenderer Plants early into the Stove, in ſpeaking of their ſeveral Cultures.

There are a Number of theſe which very well bear the Summer out of Doors, and thrive the better for it with us, but can by no Means endure the firſt Colds of our Winter's approach.

The *Erythrina* and *Lantana* figured in this Number, are of this Kind; and many others. They are to be removed out of the open Air, on the firſt Cold; and it is too common a Practice to take them at once into the Stove: but this is ſo violent a Change, that Nature does not well bear it.

The beſt Method is upon the firſt Threats of Cold, to remove them into the Green-houſe, and from thence, after about ten Days, into the Stove.

This is the Seaſon for their laſt Removal, and when they are thus taken into the Stove, they ſhould be carefully look'd over, that no decayed Leaves remain; and placed for the Winter.

SECT. II.

The Buſineſs of the SEMINARY, *for this Week.*

WE have directed in the preceding Weeks, the planting of many Trees in the Seminary or Nurſery, as well as in the various other Parts of the Ground.

One common Care is now required for them all, and we ſhall explain to the Gardener, what is the Danger, that he may neither omit, nor miſapply the Remedy.

He ſees new planted Shrubs and Trees, whether in the Garden or the Nurſery, too often deſtroyed by the Froſt: the Occaſions are two; the Power of the Wind, and the Expoſure of the Ground.

This is the beſt Seaſon of all the Year, for the generality of Planting, but without Care, it may prove the worſt.

The Advantage of it is, that the Roots will now ſend out new Fibres into the freſh broken Ground, and be well eſtabliſhed by the Beginning of the ſucceeding Summer.

The Diſadvantage that may follow is this, from Winds and Froſt.

Let him therefore plant at the Time we have nam'd, and defend his Work from theſe Accidents.

Trees are planted in two Situations; in open Ground, or againſt Walls. Thoſe in open Ground are moſt liable to Damage by Winds; but the others are not wholly ſecure from it.

They are ſhook and rocked about at the Time when they ſhould be ſhooting out new Fibres: This either prevents their puſhing them at all; or breaks them off as ſoon as formed; therefore unleſs prevented, the great Benefit is loſt: Beſide, that this rocking about of the Stem, opens the Ground, and admits the Froſt.

Therefore, near every Tree tranſplanted in the open Ground, let there be driven a firm Stake, and to this let it be tyed with a Hay-band, or other ſoft Subſtance, that may hold it ſecure without galling it: and as to thoſe near Walls, let them be at once nailed up to them.

This ſecuring them from rocking, the next Care is to prevent the too great Expoſure of the Ground.

Its Surface is bare and cold, but it is eaſy to cover and warm it: for this Purpoſe I have found nothing equal to the following Method.

Scatter over the Surface round the Stem of every new planted Tree, and among the whole Plantation, a Parcel of old woollen Rags, torn into ſmall Pieces. Taylors Shreds will do, but Rags of Cloth that has been worn, are much better.

Over theſe, ſprinkle ſome good Dung: and having ſpread the whole regularly, ſo as to cover the Surface, bring on ſome Brickbats, and lay one here and there to keep down the Dung and the Rags, that the Wind may not carry them away.

By this Means, the whole Body of the Ground not only about the Stems of the Trees, but between them will be kept warm and mellow.

The Winters Wet will diſſolve, and carry into the Ground, the Salts, and other uſeful Parts of the Dung and Rags, and enrich it ſurprizingly.

In Spring, the Brickbats are to be taken off, and the Manure dug in.

There is not any Thing ſuperior to the Effect of old woollen Rags, for the Encouragement of freſh planted Trees.

This I am ſenſible is a new Practice, but I write from Experience; and will anſwer for the Succeſs, whoever uſes it.

A great many Trees are to be raiſed in the Seminary for the Wilderneſs Plantation; and he who has true Taſte, will never be without a Supply of the ſeveral handſome common Kinds; that he may place them in Hedges about his Ground for Ornament, or in waſte Spots for Advantage. Several of theſe Kinds are to be ſown now.

The Maple, tho' not a large, is, when well trained, a very handſome Tree: It gives a pleaſing Variety in the Hedge; and its Wood may be valuable.

This is the Time of ſowing it. The Seeds ſhould be gathered when full ripe in Autumn; and being ſpread upon a Floor for a little Time to harden, they will be now fit for putting into the Ground.

Let them be ſcattered over a new dug Piece of Earth, and half an Inch of good Mould ſifted over them. Throw a few Pieces of Furze-buſh over the Ground, and ſo leave them to Nature.

The Oak, the Pride and Glory of our Kingdom, is to be raiſed in the ſame Manner. The Acorn ripens at the End of Summer, and the Principle of Growth in it is ſo ſtrong, that it will ſhoot ſoon after, tho' not committed to the Ground, and with this Shoot it decays.

Therefore what Nature directs, let the Gardener follow, and take the right Advantage of this Vigour.

Let a Bed be dug for Acorns; and let Care be taken in the gathering of them. They ſhould be choſen full ripe, and from a tall well ſhaped

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Tree; for the Growth from them greatly depends on this.

When they have lain long enough to harden, but not ſo long as to begin their Shoot; let them be in the ſame Manner ſcattered over the Surface of the Ground, levelled for that Purpoſe. Then let them be covered three Quarters of an Inch with good Mould.

Spread ſome rotten Dung over this, and ſet Traps for Mice about the Ground. Thus the Acorns will be ſecured from their worſt Enemies, and from all Danger.

This is the Time alſo for preparing for raiſing Holly from Seed.

The Berries are for this Purpoſe to be now committed to the Ground, but not in the Manner of ſowing.

The tough and thick Juices of this Shrub, occaſion its Shoot from the Seed to be very ſlow.

The Berries are to lie a great length of Time in the Earth, and they are ſo expoſed to various Accidents.

The beſt Method is therefore to bury them at ſuch a Depth, as ſhall place them out of Danger for a Part of the Time; and afterwards to ſow them for growing.

This is found to anſwer the End, and it ſaves much Trouble.

For this Purpoſe, having a Quantity of Holly-berries of the preſent Year, gathered when of due Ripeneſs, and fit for Uſe; dig up a Yard's Breadth in the Ground a full Spade Depth, and throw out all the Mould. Level the Bottom of this Opening, and cover it evenly and pretty thick with the Berries. Then break the Mould and cover them with it to the Level of the Surface; letting the Bed riſe a little in the Middle, to throw off the Water: and thus leave them for the ſucceeding Year.

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They will at this Depth in the Ground, be out of the Way of Vermine, and they will be all the Time preparing for Growth; ſo that being taken up at the ſame Seaſon the next Year, and ſowed in the uſual Manner, they will ſhoot the following Spring.

We have mentioned two of the common Trees, and muſt not omit a third; which tho' common, is not leſs valuable, this is the Elm.

The beſt Method of propagating it, is by Layers; and the Nurſery ſhould not be without a Stool or two for this Purpoſe.

This Stool is a well rooted Stump of Elm, cut off near the Ground, that its Shoots may be of a due Height for convenient Laying.

This is the Time of performing it, and in this Caſe the Method is very eaſy.

The Earth is to be well dug about the Stool; the Shoots are to be laid in and pegged down, and covered four Inches.

The Moiſture of the Ground at this Time, will promote their Rooting, and the Froſts will do them no Harm.

With this, we ſhall cloſe the Buſineſs of the preſent Week in this Part of the Ground.

SECTION III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

The Method of Gathering and Preſerving Winter Pears.

THE Catalogue we gave of Fruits in Seaſon for the laſt Week, may be underſtood as continued for this; the greater Part being ſuch, as do not ſpeedily decay.

We made it the more extenſive, and included in it thoſe ſeveral Kinds for this Purpoſe, that we might here enter upon the Article of gathering and preſerving ſuch Kinds as are capable of being kept throughout the whole, or a conſiderable Part of the Winter.

We have hitherto been able to direct the Gardener to furniſh his Deſerts from his Trees; but the Seaſon is approaching, when they will yield nothing more.

This Part of an Entertainment, may, however, be then ſupply'd from the Store-room; and we are about to lay down the Method of providing for the doing that in the beſt poſſible Manner.

The Preſervation of Winter-fruit depends ſolely upon two Things; the Manner of gathering, and the Method of curing them.

The latter is not well underſtood; and the former, by moſt of the Gardeners I know, is utterly diſregarded.

A great many of the decayed Fruits we ſee in Winter, among the Kinds that might have been preſerved better, have been deſtroyed by gathering at an improper Seaſon; or by ſome Pinch in the taking them from the Tree.

Theſe Accidents, eſpecially if attended with ill keeping, bring on a Decay in Part, or entirely: and when this once begins, it ſpreads; not only in the ſame Fruit, but to all that lie about it.

Pears are a very conſiderable Article, in the Liſt of autumnal Fruits that will keep for Winter; and they require a peculiar Care in the Time of gathering. The autumnal Kinds muſt not be left on the Tree till full ripe; for then they are ſure to eat mealy, and they will be in Danger to decay very ſoon.

Many of them are alſo naturally in ſome Soils rotten at the Heart, by that Time they are perceived outwardly to be ripe.

Let the Gardener have his Eye upon the Trees of his beſt Kinds of Winter Pears, and let him every Morning examine thoſe which have fallen off, and alſo thoſe on the Tree.

Let him cut open ſeveral of the fallings, and if he finds them ſound and full grown, it is his Notice for beginning to gather: for it is the excellent Quality of ſome of theſe Kinds, to quit the Tree freely as ſoon as they are full grown; and before they are too mellow.

Let him gather from ſuch Trees thoſe which will come off eaſily. All the Pears do not acquire this Degree of Maturity together; therefore let the Gardener, when he has received the Signal, gather with Diſcretion.

Let him chuſe the Morning of a fine Day, and wait till the Dew is perfectly off the Fruit, and its Surface is entirely dry. If this do not happen in the Morning, let him ſtay till Noon or longer. Then let him gently touch the beſt Fruits, and raiſe them a little upwards.

If they come off, 'tis well; if not, no Force muſt be uſed; thoſe which do not quit the Branch thus muſt remain longer.

If theſe Kind of Pears be gathered before they will eaſily quit the Tree, they will ſhrivel up in lying, and never have their full Flavour; and if they are neglected when fit, they will fall from the Branches.

Three Days afterwards let him viſit the ſame Tree again; and thoſe which would not come off at firſt, perhaps then will: if not, let him leave them longer. He muſt not grudge the Trouble of making three or four Gatherings from a good Tree; for the Fruit thus carefully pulled, may, with the Keeping we ſhall direct, be preſerved till the next Seaſon.

As the Pears are gathered carry them to an airy Room: lay them carefully in a Heap, and cover them with a Blanket. This will make them ſweat, and bring on again the Fermentation in their Juices: and by this they are rendered fit for keeping through the Year.

The Fermentation would have come on at ſome Time, whether this Method were uſed or not; and it might have deſtroyed the Fruit: but being thus brought on under the Eye, it only ſerves to mellow the Juices and improve the Flavour: by the ſame Means the watery Part which would have rotted them, goes off in a gentle ſweating.

Let the Blanket be lifted up from Time to Time, and the Manner of the Sweats coming on, and its Increaſe obſerved: it will grow more for ſeveral Days, the Time being uncertain according to the Kinds of Pears; and after it is at the Height it will by Degrees decreaſe. As ſoon as this Decreaſe begins the Buſineſs is finiſhed, it is not to be encouraged any longer.

The Blanket is to be taken off, and the Pears one by one wiped.

Clean and dry Linnen Cloths muſt be uſed for this Purpoſe, and great Care taken not to bruiſe them in doing it. Let the Gardener lay by a Number of the very fineſt for a peculiar Manner of Preſervation; and when the reſt are placed on the Shelves and Floor, dry, and at due Diſtance from one another, let theſe be managed in the following Manner.

Let a Dozen of large earthen Jars be wiped perfectly dry and clean on the Inſide, and a Parcel of large light Moſs be gathered in the Middle of a bright Day, and perfectly dried: let ſome common Sand be alſo ſpread before a Fire, dried, ſifted, and left to cool. All this being ready, the Pears are to be thus laid into the Jars.

Firſt cover the Bottom of a Jar with ſome of the dry Moſs: then lay upon this as many of the Pears as will lie ſingly, not one upon another: on theſe lay another Bed of Moſs, and upon that more Pears. Thus proceed till the Jar is full; and in the ſame Manner fill up all the others.

When they are all full, ſtop them up with Plugs, and pour over theſe melted Roſin.

Then ſet them upon a Bed of the dry Sand four Inches thick, and pour on more of it till they are filled up between, and covered a Foot thick.

Thus let them ſtand till the Pears preſerved in the common Way are gone; and then being opened one by one as they are wanted, the Fruit will be found in them in perfect good Condition.

The common Method, which anſwers very well for thoſe to be uſed earlier in the Winter, is to lay them ſeparate and clear of one another upon the Floor and Shelves of an airy Room. The beſt Situation for the Room is to have its Windows to the South; and it ſhould not be near any Place where there is a Fire.

In fine mild Weather the Windows muſt be opened in the Middle of the Day; but in bad Seaſons they muſt be kept ſhut entirely: and in very froſty Times the Fruit muſt be covered with ſome dry Straw, which muſt be taken off again when it is milder.

In this Manner, after the ſweating and wiping, the greater Part of the Pears for Winter Uſe may be preſerved through a very conſiderable Part, if not the whole Seaſon: and when they laſt no longer the Jars are a ſure Supply to the End.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Products now in Seaſon.

THE ſeveral Products of this Part of the Ground, recounted in laſt Week's Catalogue, continue: there may be added to the Liſt, the common purple and ſcarlet Radiſh; which, upon well-choſen Ground, will yet be found very good.

The Turnep-rooted Radiſh is alſo now in its beſt Seaſon, and very juicy.

Endive, of the fineſt Kinds, is in its Perfection; and there is, from Hot-Beds, ſmall Salleting, equal to that of the Spring.

Muſhrooms continue plentiful from the Beds; and the hardyer Soop and Pot-herbs flouriſh from the Moiſture of the Ground.

CHAP. II.

The Care and Culture of the Kitchen-Ground.

SOME of the Cauliflower Plants, of which we have ſpoken in the preceding Week's Numbers, muſt now be planted out, and taken into due Care for the Winter.

This is the Method I have found anſwer beſt. Dig up a Piece of good Ground in a ſhelter'd Situation, and plant in the fineſt of the Cauliflower Plants, at ſuch Diſtance as they may be conveniently preſerv'd under Glaſſes.

Set only one Plant for each Glaſs; and when they are all in, and have had their firſt Watering, ſift over the whole Ground a light Covering of Coal-aſhes. This preſerves it greatly from Froſts, which elſe beginning to crack the Earth on the Outſide of the Glaſſes, the Flaws will continue under them, and hurt the Plants.

It is the Cuſtom to plant two for every Glaſs; that if one fails, the other may ſucceed: there is an Appearance of Reaſon in the Practice; but it is only an Appearance. By what I have ſeen, one of theſe often ſtarves the other, and both come to little good.

Theſe are to be cover'd all the bad Weather; and at the ſame Time ſome more of the Plants ſhould be carefully ſet in warm ſhelter'd Borders, under Pales.

Thoſe under the Glaſſes will come earlier than the others; and will ſucceed if theſe ſhould fail.

Seedling Aſparagus-Beds muſt now be protected from the Froſt, and they will then furniſh a fine Supply for a Spring Plantation.

The Stalks muſt be cut down, and the Beds covered with a Scattering of freſh Mould, and another of rotted Dung. If the ſucceeding Seaſon prove very ſevere, there muſt be ſome dry Straw ſpread over them; and when it is milder, this muſt be taken off.

This done, let the Gardener go once again over his whole Ground, and wherever he ſees a Growth of Weeds, deſtroy them: it is the laſt Time he need to perform that uſeful Office, for the Froſts will let no more riſe.

EDEN:

EDEN:

A COMPLEAT BODY of GARDENING.

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NUMBER IX.

For the Latter End of *OCTOBER*.

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SECTION I.

FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. VIOLET Coloured AFRICAN CAMPANULA.

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THE Numbers of handſome Plants of the Campanula Kind we at this Time raiſe in our Gardens, need not ſhut their Door againſt an Addition of the ſame Kind. This is a moſt elegant, as well as numerous Genus; and *Aſia*, *Africa* and *America* offer us daily new Beauties from its various Species.

This we here propoſe has been known many Years in the neighbouring Kingdoms, and to ſome in *England*; but it is not ſo univerſal as it deſerves.

The Colour of the Flowers, which is a deep velvety blue purple, has obtained it the *Engliſh* Name of Violet Campanula.

COMMELINE calls it *Campanula Africana annua hirſuta, latis ſerratiſque foliis, flore magno violaceo.* LINNÆUS, *Campanula foliis lanceolatis dentatis his pedis pedunculis longiſſimis capſulis ſtrigoſis:* Campanula with rough, indented, and ſpear-pointed Leaves, and with very long Foot-ſtalks to the Flowers, and ſlender Seed Veſſels. A Name comprehending almoſt a Deſcription.

It is an annual fibrous-rooted Plant. The Stalk is rounded, tolerably firm, purpliſh near the Ground, of a paler green upwards, and a little hairy.

The Leaves are of a very handſome Shape and Colour. They have no Foot-ſtalks; they are long, narrow, ſharp-pointed, indented at the Edges, and of a lively green.

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From their Boſoms riſe numerous Branches, from the Boſoms of whoſe Leaves again riſe others; ſo that the whole Plant is beautifully buſhy.

All the leſſer Branches terminate in long, ſlender, naked Twigs, which are as Foot-ſtalks to the Flowers; and ſome riſe of an equal Length with the others, from the upper Leaves on the main Stalks.

At the Summit of each ſtands one Flower, very conſpicuous in Size, Shape and Colour. It is ſo large, that the tender Foot-ſtalk uſually bends with it; and it is, though of the proper bell-like Form, deeply divided into five Segments. Its Colour is that of the Violet.

This Flower is placed in a ſmall hairy Cup, divided into five Parts, and ſituated upon the Rudiment of the Seed-Veſſel, which afterwards becomes longiſh, and has three Holes at the Sides for letting out the Seeds, which are numerous and ſmall.

In the Centre of the Flower is a conſpicuous Part, formed of fine little convergent Scales.

This we have in general informed the Student is the Nectarium; but in this Flower it is very remarkable in its Office: for beſide ſecreting the Honey Juice at the Baſe of the Flower, it is the Place of Origination of the Filaments.

Theſe are five, and they are very minute:

Octob. one grows from the Point of each Scale of the Nectarium; and at the Tops of theſe ſtand Buttons of a Shape equally ſingular; they are very ſlender, and of a Length not leſs than that of the Filaments which ſupport them.

The Style is ſingle, and has its Top divided into five Parts, which turn backwards.

The young Botaniſt, who finds in this Flower five regular Filaments and a ſingle Style, needs not to be informed farther to what Claſs it belongs in the LINNÆAN Syſtem.

The fifth contains the Pentandria, whoſe Character is this Number; and the ſingle Style ſhews it to be of the firſt Section of that Claſs, the Monogynia.

This elegant Plant is a Native of the *Eaſt-Indies*, and of the *Cape of Good Hope*. The *Dutch* firſt received it thence; and they furniſhed the Reſt of *Europe*. It there grows naturally in a looſe, but rich Soil; and ſuch we ſhould allow it here.

It is an annual, and muſt be raiſed from Seeds. Theſe it will ripen here, and the Plants will freely riſe from them: but when there is an Opportunity of obtaining them from the native Place, they are much better.

The Soil for it ſhould be compoſed of equal Parts of light Earth from a dry Paſture, and Mud from a Pond, with a very ſmall Admixture of Sand; one Buſhel of this to ſix of the others is ſufficient.

This is a Soil extremely unlike the common Garden-Mould, in which moſt plant every Thing; and if the two be tried, the Difference will be ſeen in a ſtrong Light. Indeed that is the only Method of Compariſon.

Early in Spring let a Heap of this mixed Soil be prepared; and at the ſame Time a hot Bed raiſed for the Seeds, and covered well with good Garden-Mould.

In this let them be ſown, and covered only a quarter of an Inch deep.

When the Plants have a little Strength, let them be removed into another hot Bed; and they muſt be there watered and ſhaded till they have taken Root.

In this they muſt ſtand till large enough to be tranſplanted into Pots, which muſt be done with great Care. Octob.

For each Plant let there be a ſeparate Pot of a middling Size. Let ſome Stones be laid in the Bottom to ſecure the Opening for letting out the Water from being clogged up; and then let it be half filled with the Compoſt.

Raiſe the Plant with as much of the Earth as can be kept about it. Set it upright in this Pot, and keep it ſteady by placing more of the Compoſt round it. Raiſe the Earth within an Inch to fill the Pot, and then give the Plant a gentle watering.

Set this Pot up to the Rim in a Bark Bed, and ſhade and water it at Times till rooted.

This is to be the Method with every Pot. When they are thus well rooted, the Air muſt be admitted to them by Degrees to harden them, by lifting up the Glaſſes of the Frame with a notched Stick: and after this has been done during the Heat of the Day for a Week, they muſt be ſet out in the Middle of a hot Day among the Greenhouſe Plants. If the Night ſhould threaten Cold they muſt be removed into the Greenhouſe, and ſet out again the next Day.

They will thus be hardened thoroughly, and ſoon after they will bud for flowering.

In this they muſt be encouraged by ſlight Waterings twice a Day; and they will produce toward Autumn their firſt Flowers.

Theſe when they fade muſt be carefully taken off; otherwiſe their Seeds will ripen, and no more Flowers, at beſt no good ones, be produced: but taking them off as they decay, there will be a Succeſſion for more than two Months. If the Weather grow early cold, the Pots may be removed into the Green-houſe; or if there be Need into the Stove, where they will continue flowering till the Middle of *November*.

This is the true Method of managing this elegant Species. It may be kept alive with leſs Care; or it will not be deſtroyed by more Heat; but in neither Caſe will it flower as when it is thus ordered.

Few have ſeen how glorious a Plant it is, for want of knowing or attending to this Method of its Culture.

2. PURPLE SOCOTRINE ALOE.

Pl. IX. Fig. 2. The Number of the Aloes is very great, and many of them are of conſiderable Beauty. They are murthered in *England* by an unartful Culture; for very few apprehend what different Management is neceſſary for the various Species. We ſhall occaſionally obviate this Miſchief.

The Species we here propoſe to the Gardener's Care, is one of very conſiderable Beauty; and with a judicious Management it flowers with us abundantly, and with its full native Vigour.

It is commonly known by the Name of the Purple Socotrine Aloe.

COMMELINE'S Name has given Riſe to this; for he calls it, *Aloe Socotrina anguſtifolia ſpinoſa flore purpureo.*

LINNÆUS calls it, *Aloe floribus pedunculatis cernuis ſubcylindricis:* Aloe with drooping ſubcylindric Flowers placed upon Foot-ſtalks.

The Root is thick and of an irregular Shape, covered with a brown Bark, and hung with many Fibres.

The Leaves riſe from it in a beautiful round Cluſter: the central ones more upright, the others more and more obliquely.

They are very beautiful in Form and Colour. Their Length is a Foot and half. They are of a lively green, and they are narrow, thick, and fleſhy: they are terminated by a thorny Point; and they have all along each Edge, a Row of pale and pointed, but not very firm Spines.

The Stalk riſes in the Centre of theſe, and is round, thick, ſmooth, of a purpliſh brown, and two Foot in Height, decorated toward the Top with a few Leaves.

The Flowers attract the Eye, and they demand its full Attention. They are extremely numerous, cluſter'd into a thick long Spike, and of a moſt elegant purple; not a deep duſky Tinct, but pale and lively.

The Leaves of this Plant being cut, drop out a yellow bitter Juice, not ſtinking, as the common Aloe, but ſweet, and ſomewhat aromatic.

The Flower ſtands naked on its Footſtalk, without any Cup, and is ſucceeded by an oblong Seed-veſſel, form'd of three Valves; and containing, in ſo many Cells, numerous angulated Seeds.

Within each Flower ſtand ſix ſlender Filaments: theſe are of equal Length with the Body of the Flower; and upon them are plac'd little oblong Buttons, which ſhew themſelves beyond its Verge.

The Style is ſingle, and of the ſame Length with the Filaments.

We have ſo far inform'd the Student in the LINNÆAN Syſtem, that he need not be told particularly, this, which has a ſingle Style among ſix regular Filaments, is one of the *Hexandria Monogynia* of that Author, his ſixth Claſs and its firſt Section.

Culture of the purple SOCOTRINE ALOE.

The Beauty of this Plant, and its full Glory in flowering, depend entirely upon a proper Method of Management; and its Flowers are ſo great an Ornament to whatever Place they decorate, that it is very well worth all the Pains that can be beſtow'd upon it.

The firſt Principle on which this Succeſs in the flowering of it depends, is this: that tho' it will live in a leſs Degree of Heat, yet it always flowers more ſucceſsfully in a greater. This has been prov'd in the *Dutch* Gardens, and muſt be a Leſſon to all who raiſe it in ours.

The Propagation of it is eaſy. In its native State it throws off Abundance of healthy Suckers; and, with tolerable Care, will do the ſame here. Theſe ſeldom fail to grow up into handſome Plants.

The beſt are thoſe obtain'd from *Africa*, its native Soil, and they are very eaſily brought over; but it will riſe to a great deal of Beauty, from thoſe taken from Plants in our own Pots.

A great Article is the Soil in which they are to be planted, and there is nothing in which the common Practice errs ſo widely.

In *Africa* this Aloe covers the Sides of ſandy Hills, and ſometimes gets near the Sea.

Thoſe who have examined the Soil in theſe Places, have found it full of Sand, and of a looſe white Earth like Mortar.

Their Deſcriptions, which they have given with more Truth than Art, have not been well underſtood; and our People, aiming to imitate the Appearance, when they could not make out the Reality, have, in general, mix'd up a Soil for it of Sand and Lime Rubbiſh mix'd with a dry light Earth.

To this is owing the indifferent Succeſs of our Aloes of theſe Kinds. We are ſorry to particulariſe Mr. MILLER as one who has advis'd this injudicious Practice; but it is needful to caution the Gardener againſt an Error, which under the Authority of that popular Name would elſe have ſtood for Truth.

Later Enquiries have diſcover'd, that the Subſtance which has been compar'd to Lime-Rubbiſh, in theſe *African* Hills, is MARLE. We have this in *England* in great Abundance, and the Farmers uſe it, tho' the Gardeners are not enough acquainted with it.

This is lodg'd in a brittle ſandy Earth in theſe native Beds of Aloes; and this is the Soil we ſhould imitate, and may fully equal.

Therefore, for the firſt Step in the Culture of this and other *African* Aloes, delighting in the ſame kind of Soil, let there be made a Mixture of five Buſhels of light ſandy Earth, from a barren upland Paſture; one Buſhel and a half of Marle, and one Buſhel of River-Mud. Let this be pil'd in a Heap together, and turn'd once a Fortnight; and when it has lain a Month, let there be ſprinkled over this Quantity two Ounces of Sea-Salt.

This Compoſt will mellow into a light and crumbly Soil; tho', till touch'd, it holds firmly enough together. It will therefore cling ſufficiently about the Roots of the Plants; and yet not load them or oppreſs their tendereſt Fibres.

This being prepar'd in Spring, will be fit for Uſe about the Beginning of *Auguſt*, which I have found to be the moſt ſucceſsful Time for propagating the Plants.

At this Seaſon, fill as many ſmall Pots with this Compoſt as you can obtain Suckers; firſt laying a Piece of Tile at the Bottom of the Pot, to keep open the Hole; for if that be ſtopt, the Water given for the Support of the Plant, being detain'd, will be its certain Deſtruction.

The Pots being ready, take off the Suckers carefully from the Mother-Plants. Lay them in the open Air, but out of the Reach of the Sun or Wind, that they may harden a little; for otherwiſe they will rot at the Baſe, and come on poorly, whatever Care be taken of them.

When they have lain three Days in the Air, plant one in each Pot, taking Care that the Earth fall every Way cloſe about the Bottoms. When they are all planted, ſet them under the Shelter of a Hedge, and ſhade them with Mats, but not ſo cloſe as to deny them Air.

In this Place let them ſtand ten Days; and then remove them into a Bark-Bed, which has but a very gentle Heat. Set the Pots in this up to their Rim, and ſhade the Bed with Mats; but raiſe the Glaſſes to admit Air.

Octob. When they have, in this Bed, rooted pretty well, they muſt, by Degrees, be inur'd to more and more Air; and when they bear this without Hurt, it will be Time to take them from the Bed.

About two Months from the Time of their firſt planting, they may be taken out of the Bed. But as the Seaſon will be now advanced, and cold Nights come on, they muſt not be ſet out into the open Air; but taken from the Bark-Bed to the Green-houſe.

They muſt be there plac'd forwards, and have a great deal of Air by Day; but they muſt be defended, by ſhutting the Glaſſes, in an Evening.

All this Time they muſt have frequent gentle Watering, and let the Gardener take Care that the Paſſage at the Bottom of the Pot be free, and no Wet lodges in it.

In *October* they muſt be remov'd into the Stove, and from this Time they muſt have frequent Waterings; the Water having ſtood four and twenty Hours in the Stove, that it may be of the ſame Temperature with the Air.

With this Management they will grow very conſiderably during the Winter; and when the Spring comes on, they muſt be admitted to a more free Air by very ſlow Degrees, becauſe the Winter's Growth has made them tender.

Toward the Middle of the Summer they muſt be again remov'd into the Green-houſe, out of the Stove, and gently water'd at Times.

In the very Heat of Summer it will do them good to ſet them out for a few Weeks among the Green-houſe Plants, expos'd at that Seaſon; but they muſt not be expos'd to the leaſt Danger of cold Nights.

This Care is to be repeated and continued according to the Seaſons; and thus the Off-ſets will be brought to flower about the third Year.

The Beginning of *Auguſt* will be afterwards the beſt Time of removing them from their old Earth, and giving new of the ſame Kind. This greatly ſtrengthens their Growth, and promotes their flowering.

To this Purpoſe, they muſt be carefully taken out of the Pot, and all the Earth wip'd from about the Roots. Octob.

Let the ſeveral Parts be then examined, to ſee whether any be decay'd, and if there be, let ſuch be cut off. Then put ſome Pebbles into the Bottom of the Pots: fill to a proper Height with the Compoſt, and carefully put in the Plant.

Diſtribute its Roots regularly; pour in a little of the Soil very dry between them, and ſhake the Pot, that it may ſettle among the Roots. Then cover them with more, and fix them ſecurely and ſteadily in the Pot. Put them again into the Green-houſe, and give them a gentle Watering.

This muſt be occaſionally repeated; and under this Advantage of Shade and Shelter, Moiſture and Warmth, they will preſently accommodate themſelves to their new Earth, and grow with Vigour.

This is the whole Care requir'd in nurſing up theſe Aloes to a due Degree of Strength for flowering: but when the Time for that approaches, a particular Attention muſt be ſhewn to them.

They will flower as they ſtand in the Green-houſe; but the Flowers will not there have half their natural Beauty. More Heat is given by Nature, for this Purpoſe, in their own Country, and more muſt be allow'd them here.

Toward the Time of their natural flowering, the ſecond or third Year, let the Gardener watch his Plants, and where he ſees the Shoots for a Stalk, remove it into the Stove.

There let him give it Water often, and in little Quantities, and always warm'd, by ſtanding in the Stove, to its proper Temperature. Thus the flowering Stalk will riſe with all its natural Advantages, and will produce a Spike of more than fifty Flowers, opening in a gradual Succeſſion.

After this the Plants will continue regularly flowering every Year, and producing a ſufficient Number of Off-ſets from the Sides, by which a new Succeſſion may be raiſ'd, as we have directed.

The Care and Management of the grown-up Plants muſt be the ſame with that of the young ones, which we have already given; and no more is required to preſerve them in their full Vigour.

3. ÆTHIOPIAN PHILYCA.

P. IX. Fig. 3. This is a very elegant Shrub, ſo frequent at preſent in our Gardens, that we need not recommend it farther.

It is commonly known by the Name of *Alaternoides*, given to it by COMMELINE, from ſome Reſemblance of the Flower to that of the *Alaternus*.

LINNÆUS, and the more correct Writers, call it *Phylica*, and diſtinguiſh it by the Addition of *Foliis linearibus verticillatis: Phylica*, with narrow Leaves growing in Cluſters round the Stalk.

It is a Shrub of a Yard in Height, and of a very beautiful, buſhy, and wild Growth.

The main Stem is covered with a brown Bark, and the young Twigs are purpliſh.

The Leaves are very numerous and ſmall: they grow in a Kind of circular Cluſters round the Stalks in many Parts, and they are narrow, ſharp-pointed, and of a firm Subſtance. Their Colour on the upper Side is a fine ſtrong green, and on the lower Side they are ſilvery or greyiſh.

The Flowers are very ſmall and white, but their Manner of growing is ſingular and beautiful.

From the Tops of the Branches, and from their Sides, in various Places, riſe ſlender Shoots of two or three Inches in Length, beſet with numerous Leaves, and all crown'd with Cluſters of theſe little Flowers. This Diſpoſition of them,

their

Octob. their natural Whiteneſs, and the Contraſt of the ſtrong Green of the Leaves, gives the Plant an Air of Prettyneſs, that the moſt incurious Eye is ſeldom ſeen to paſs by unnotic'd.

The Flowers are all ſurrounded in the Cluſter by numerous little Leaves, and each ſtands in its own ſeparate Cup, which is compos'd of three narrow and ſharp-pointed Segments: this remains when the Flower is fallen, and becomes the Defence of a roundiſh Seed-veſſel, mark'd with three Ridges, and containing, in as many Cells, three roundiſh but irregular Seeds; one in each.

In the Centre of the Flower, which is tubular, and imperforated at the Baſe, and divided into five ſmall Segments at the Rim, there riſe five very ſmall and ſlender Filaments; the Origin of theſe is ſingular: it is this.

At the Baſe of every Segment of the Flower there ſtands a little Scale; theſe are therefore five in all: they are ſharp-pointed, and they converge inwards: the five Filaments have their Inſertion under theſe five little Scales, one riſing under each, and they are terminated by ſmall roundiſh Buttons. The Style is plac'd among theſe, and is ſmall and undivided.

This ſingular Structure of the Flower, plainly ſhews the Plant to be of a Genus diſtinct from all others; and the Filaments and Style ſhew evidently that it belongs to the *Pentandria* of LINNÆUS, his Fifth Claſs, and to the firſt Section, the *Monogynia*.

The Plant is a Native of *Æthiopia*, where it flowers all the Year. We firſt rais'd it from Seeds ſent from thence; but at preſent, as it is common in our Green-houſes, and the Cuttings of it grow very freely, it is rais'd only by that Method.

Theſe afford very good Plants; but thoſe who have ſeen ſuch as were rais'd from Seeds, brought from wild ones in the natural Climate, know how much they are preferable. Octob.

From theſe Seeds it is to be rais'd in Hot-Beds, as we have directed for the other Green-houſe Plants; but the other Way is the moſt univerſal.

Culture of the PHILYCA.

The natural Soil for this Shrub, is a light Earth, with ſome Sand; and it is found to thrive beſt wild, when there be decay'd Wood about it, as near the Edges of Thickets.

We may eaſily copy Nature in this Matter, and the more ſtrictly we do that, in this, as well as other Inſtances, the better we ſhall ſucceed.

Upon this Plan I form'd the following artificial Compoſt, with which I find the Shrub to agree ſo well, that it is not ſeen elſewhere ſo beautiful.

Mix a Barrow of Earth, from an upland Paſture, half a Barrow of good Garden-Mould, a Buſhel of common Sand, and half a Buſhel of Saw-Duſt.

Let theſe be well work'd together in the Spring, and lie mellowing all Summer.

In the Beginning of the ſucceeding Autumn fill a Pot with this, large enough to hold eight or ten of the Cuttings. Let them be taken from a thriving Plant, and ſet in with Care.

Give them a gentle Watering as ſoon as they are in the Pot, and repeat it occaſionally.

Set the Pots up to the Edge in an old Bark-Bed that retains a little Heat, and ſhade the Plants with Mats.

By this Means, the gentle Waterings, moderate Warmth, and due Degree of Shading, will encourage them preſently to ſtrike Root; and after this they require no particular Care, but muſt be treated juſt as the Green-houſe Plants. Their ſingular Aſpect and late flowering, give them a great Value.

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4. OCCIDENTAL GREWIA.

Pl. IX. Fig. 4. This is a very elegant little Shrub, and from its handſome Growth, as well as the Singularity of its Flowers, deſerves a Place in every Collection.

The old Writers on Botany were unacquainted with it; and thoſe who afterwards came to the Knowledge of it, were perplexed where to arrange it, or by what Name to call it.

PLUKENET has call'd it, *Ulmifolia Arbor:* and COMMELINE, *Ulmi facie Arbuſcula.*

LINNÆUS has diſtinguiſh'd it by the Name *Grewia*; and as this Species has the Leaves of a Form approaching to oval, he has added, to make the ſpecific Name, *Foliis ſubovatis.*

They judg'd by very faint Reſemblances who nam'd this after the Elm: they ſhould have ſought the Characters not in the Leaf, but in the Flower.

It grows with us to a Shrub of five Foot high, and ſpreads in a pleaſing Manner into Branches.

The Bark of the main Stem is greyiſh, and that of the young Shoots brown, and often purpliſh: they are very ſlender, and are arm'd with a few ſlight and almoſt harmleſs Thorns.

The Leaves are plac'd with perfect Irregularity, ſometimes in Pairs, ſometimes alternately, and they are an Inch and half long, and an Inch broad.

They have ſhort Foot-ſtalks, and their Colour is a pale but pleaſing green. Their Edges are ſerrated, and they are pointed at the Ends.

The Flowers are ſcattered over various Parts of the Shrub, and they are very conſpicuous: they are large, open, and of a pale purple, with a great Cluſter of yellow Buttons in the Centre.

This Flower is plac'd in a five-leav'd-Cup, of a firm tough Subſtance, and colour'd on the inner Side; and is ſucceeded by a Fruit of the Berry Kind, but ſquare, and divided within into four Cells.

The Petals of the Flower are properly five; but

Octob. but they are ſo mix'd among the Leaves of the Cup, and thoſe are ſo large and colour'd, that the Flower appears to conſiſt of twice that Number.

At the Baſe of every Petal there is plac'd a little Scale; and theſe converging, ſurround, at the Bottom, the Style.

In the Centre of the Flower appears the Rudiment of the ſucceeding Fruit: from this grows up the Style; and upon it are inſerted alſo the Filaments. This is a ſingular Diſpoſition; and the Student muſt carefully regard it; becauſe on this depends the claſſing of the Shrub.

Theſe Filaments are very numerous, and of the Length of the Petals, and they are crown'd with roundiſh Buttons.

The Rudiment of the Fruit, juſt deſcribed, terminates a Columnar Receptacle, and from it riſes the Style, which is ſingle, and of the Length of the Filaments.

The Sight of theſe Filaments might at firſt perplex the Student; but he will remember, that when they are thus numerous, the Claſs of the Plant is not to be found by counting them; but by obſerving the Place of their Origination.

If they be inſerted in the Inſide of the Cup, the Plant belongs to the *Icoſandria:* if on the Receptacle, it is of the *Polyandrous* Claſs; but he will find in this they are not inſerted on either, but riſe from the Baſe of the Germen or Rudiment of the Fruit, which terminates the Receptacle.

This is the Female Part of the Flower; and he will recollect, that we have before acquainted him of the *Gynandria*, the Twentieth of the LINNÆAN Claſſes, whoſe Character is, that the Filaments grow on the Female Part.

The *Grewia* is one of theſe; and there is no Plant which better ſhews that Character.

Octob.

Culture of the GREWIA.

This Shrub is a Native of the *Eaſt* and *Weſt-Indies*, and of ſome Parts of *Africa*; always in extreamly hot Climates.

It loves a mellow Soil, and this we muſt give it here. The beſt is made of equal Parts of Garden-Mould and River-Mud, with a ſmall Sprinkling of coarſe Sand; in this let it be planted with due Care, and it will not fail to flower under a right Degree of Warmth and Moiſture.

The beſt Method of raiſing it is from Seeds; but it is much more eaſily propagated by laying the Branches.

If it be rais'd from Seeds, they muſt be ſown in Spring, on a moderate Hot-Bed; and at the ſame Time, the Soil, we have directed, muſt be prepar'd for their future Reception.

The Plants, when come up, muſt have a little Water carefully given them; and being rais'd to ſome Strength, they muſt be tranſplanted into Pots of this prepar'd Soil.

Theſe muſt be ſet up to the Rim in a Bark-Bed of moderate Heat, and ſhaded till they are well rooted.

From this Bed, when they have gain'd ſome Height, they muſt be remov'd into another, firſt planting them into larger Pots; and when they have been ſhaded in this, and water'd till they have taken good Root, they muſt be by Degrees inur'd to the Air.

In the Height of Summer they may be expos'd among the Green-houſe Plants; but before the leaſt Approach of Cold, they muſt be hous'd, firſt taking them into the Green-houſe, and then into the Stove.

The Way of laying the Branches has nothing in it particular, but they muſt be laid into Pots of this Compoſt; and when they have taken ſufficient Root, treated in all Reſpects as the others.

The Shrub will bear the open Air, with the Green-houſe, a great Part of the Year; but it will never flower ſo well as in the Stove.

5. VINE-LEAV'D GERANIUM.

Pl. IX. Fig. 5. We add here to the *Geraniums*, we have before recommended to the Gardener's Attention, one whoſe Beauty and Fragrance have already engag'd the general Attention; and which is worthy a Place in the beſt Collections.

Authors have nam'd it under the Title of *Geranium tuberoſum vitis folio, noctu oleus.* LINNÆUS, more diſtinctly, *Geranium calycibus monophyllis tubis longiſſimis ſubſeſſilibus radice ſubrotunda:* Roundiſh-rooted *Geranium*, with Cups form'd of a ſingle Leaf, and very long Tubes on ſhort Foot-ſtalks.

It is a very ſpecious Kind, and ſcarce inferior to any in Elegance.

The Root is roundiſh, brown, and full of Fibres.

The firſt Leaves riſe in Numbers, and are ſupported on long thick hairy Foot-ſtalks: theſe are ſometimes purpliſh, but naturally green; and the Leaves are alſo of a fine bright green. They are large, broad, divided deeply in ſeveral Places, and not unlike ſome Kinds of Vine-leaves: and they are highly rib'd, and lightly hairy.

Frequently at the Baſes of theſe there ſtand one or two little Appendages, but this is not conſtant.

In the Centre of this Tuft of Leaves riſes the Stalk, which ſupports the Flowers. This is round, thick, hairy, purpliſh at the Bottom; and on the upper Part green.

The Flowers ſpread out in very glorious Tufts, and they are in themſelves large and beautiful.

Octob. Their Colour, in the Middle Part of the Petals, is a delicate red, but the Edges of them are naturally of a pale yellow.

Theſe Flowers are plac'd on hairy Footſtalks, ſingly ſometimes, but oftener in Cluſters; and they are ſucceeded by long Beaks, in the Manner of the other Plants of this ſingular Kind.

The Flower of the *Geranium* we have explain'd to the Student, in treating of ſome of the preceding Species; and as this differs in nothing eſſential from thoſe in the general Structure, we ſhall barely recapitulate, that the Petals in the Flower are five; and that the Filaments, which are ten in Number, grow together, ſo as to form one Body at the Baſe: wherefore the Plant is not to be claſs'd according to their Number, but to this ſingular Diſpoſition; and thence plac'd in the *Monadelphous* Tribe; and in the ſecond Section containing the *Decandria*, thoſe whoſe Filaments are ten.

Culture of the VINE-LEAV'D GERANIUM.

The Plant is a Native of *Africa*, where, after Sun-ſet, its Flower has a very ſingular Fragrance, tho' none in the Heat of the Day: this is not wonderful, for the great Heat diſſipates the Vapour, on which their Smell depends. With us it has the ſame Quality, but in a leſs Degree.

It naturally delights in a rich, mellow, and light Soil; and the preparing ſuch a one for it here, ſhould be the firſt Care of all who wiſh to ſee it in its natural Luſtre, or enjoy its Evening Fragrance.

To this Purpoſe, let there be mix'd together two Barrows of Mould, from a fertile but dry Paſture; one Barrow of Earth from under an old Wood-Pile, and half a Barrow of large coarſe Sand.

Let this be pil'd in a Heap ſeveral Months before it is wanted, and kept clear from Weeds by frequent Turning.

Let Seeds be obtain'd, when that can be done, from *Africa*; but, in other Caſes, let the beſt of thoſe it ripens here, be carefully preſerved during Winter, and ſown in Spring. Octob.

They ſhould be ſcatter'd upon a well-cover'd Hot-Bed, and bury'd half an Inch.

The Plants will ſoon come up; and when they have acquir'd a little Strength, they muſt be remov'd into another, and ſet at greater Diſtances.

In this they muſt be ſhaded and water'd, to promote their Rooting; and when they are ſomewhat more advanced in Bigneſs, remov'd into Pots.

Common Mould ſerves very well the Purpoſe of covering the two Hot-Beds; but the Compoſt prepar'd for them muſt be now put into the Pots.

Firſt let ſome Pebbles be laid in the Bottom of the Pot; then let it be half, or more, fill'd with the Compoſt; and being thus prepar'd, let the Plants be one by one taken up, with as much of the Mould as will hang to the Roots, and ſet upright in the Pots. Let more of the Compoſt be pour'd in, to fill them up to a proper Height, and the Plants ſecur'd upright. Then let them have a gentle Watering, and be plac'd either in a Bark-Bed that has but little Heat, or under a common Hot-Bed Frame to help their Rooting.

Here they muſt be cover'd, ſhaded, and water'd, till well rooted again; and after that the Glaſſes muſt by Degrees be rais'd more and more, in the Heat of the Day, to harden them; and they muſt afterwards be ſet out among the Greenhouſe Plants.

They will flower, with good Management, the firſt Year. They muſt be taken in at the Approach of Winter, and they will every Year afterwards flower ſtronger and ſtronger; and will, in Time, produce Off-ſets from their Roots, which being nurs'd up with the ſame Care as the Seedling Plants, will ſooner come to the full Glory of their flowering. They will always flower the beſt, when they have moſt free Air.

6. PURPLE SHRUB TREFOIL.

Pl. IX. Fig. 6. We raiſe many of the Shrub Trefoil Kind with as much Care as would be requir'd for this, which have not half its Beauty.

It is greatly eſteem'd in the other *European* Collections, and deſerves to be made univerſal in our own.

The *papilionaceous* Flowers, added to the Diſpoſition of the Leaves, expreſs the Character of its Genus ſo plainly, that all who have treated of it, have call'd it by its proper Name.

COMMELINE calls it, *Trifolium Africanum fruticans flore purpuraſcente.* LINNÆUS, *Trifolium ſpicis ſubvilloſis, lacinia calycum infima maxima, caule fruticoſo foliis ſubſeſſilibus:* Shrubby Trefoil, with Leaves having ſcarce any Foot-ſtalks; with hairy Tufts of Flowers; and with the lower Segment of the Cup large.

Thoſe who are not acquainted with Botanical Knowledge, cenſure LINNÆUS for the Length and Abſtruſeneſs of his Names. With Reſpect to the latter Charge, it is his Care to avoid making them yet longer, which occaſions it; and the Length they have is proportioned to the Number of Species, from the which they are to diſtinguiſh that to which they are apply'd.

Thus, in this Inſtance, the Species of Trefoil are extremely numerous; and the Author was therefore under a Neceſſity to point out the peculiar Parts in which this differs from the others. A ſhorter Name could not have anſwer'd the Purpoſe of a juſt Diſtinction of the Species.

It is a ſhrubby Plant, of irregular Growth, and of about two Foot in Height.

The Root is woody, divided, and full of Fibres.

The Stem is firm, round, hard, and cover'd with a brown a brown Bark; and the young Shoots are uſually brown, and ſometimes reddiſh.

The Leaves are narrow and oblong, pointed at the Ends, not at all ſerrated at the Edges, and of a lively green. They ſtand in Three's, according to the Character of the Genus, and they are a little hairy.

The Tops of all the Branches are crown'd with numerous Flowers. Theſe are large, for a Plant of this Kind, and very eminent in their Colour; which, when the Plant is healthy, is a Purple no Paint can repreſent.

They are arrang'd in a kind of thick ſhort Spikes, and theſe are downy, in the Manner of the Leaves; but that the Hairs are paler colour'd and longer.

Each Flower ſtands in a Cup, form'd of a ſingle Piece, but divided deeply into five Segments, of which the lower one is over-proportioned to the reſt in Size; and is ſucceeded by a ſhort Pod, containing a ſingle angulated Seed.

The Flower itſelf conſiſts in the Manner of thoſe call'd *papilionaceous*, of four Petals. Of theſe the upper one, call'd in theſe Flowers the *Vexillum*, is ſomewhat broad, and turn'd naturally back: the two ſide ones are call'd *Alæ*, or Wings, and theſe are ſhorter than the *Vexillum*; and the lower Petal, or *Carina*, is ſhorter yet than they.

The Filaments are hid; but on tearing open a Flower carefully, they are diſtinguiſh'd plainly: they are ten in Number, as is ſeen by counting the Antheræ; but they are form'd into two Aſſortments; nine of them uniting into a kind of Tube, and the tenth, which remains ſingle, falling over its Opening.

The Style riſes within this tubular Body, and is defended by it; and it is ſingle.

The Student, upon this Examination, will not fail to recollect what we have laid before him, relating to the *Diadelphia*.

The Characters of theſe is, that the Filaments are form'd into two Aſſortments; and the third Subdiviſion contains thoſe Plants of this Deſcription, which have the Number of ten of theſe Filaments: plainly therefore this Species belongs to the *Diadelphia Decandria* of LINNÆUS, as do indeed all the others of that numerous Family, the Trefoil.

Culture of the PURPLE SHRUB TREFOIL.

The Plant is a Native of *Africa*, and there lives in a very dry and barren Soil. This we muſt imitate in *Europe*, or we ſhall never ſee it in its full Beauty.

Too rich a Soil will make the Branches ſpread in greater Number, and the Leaves will thus be larger; but it will have fewer, and thoſe paler Flowers.

Nothing but a Soil, that in ſome Degree reſembles its own, will give that lively Tinge to them they have where native.

For this Purpoſe, let the Gardener mix together two Barrows of Earth, taken from a hilly and poor Paſture, and half a Barrow of Sand. Let him break over this a quarter of a Pound of Stone Lime, and leave it to the Air; turning it once a Fortnight.

This being prepar'd, let the Seeds be ſown upon a moderate Hot-Bed. They will riſe freely. Thoſe from its native Country are beſt; but it will ripen them ſo well here, that they will afford very good Plants.

When theſe are three Inches high, let the beſt of them be remov'd to another Hot-Bed, and ſhaded well, and water'd gently, till they are rooted: then let them be encourag'd to grow up by more Water; and when they are grown to a good Size, let them be planted out into Pots.

Into each Pot let there be firſt put ſome Pebbles, to facilitate the Paſſage of the Water: then let them be fill'd half up with the Compoſt prepar'd for them; and on this let the Plants be ſet with a little of the Hot-Bed Mould about their Roots.

Then fill up the Pot carefully with more of the Compoſt; and take Care the Plants ſtand upright. They muſt have a gentle Watering after this, and be then ſet under a Hot-Bed Frame, and ſhaded, and occaſionally water'd.

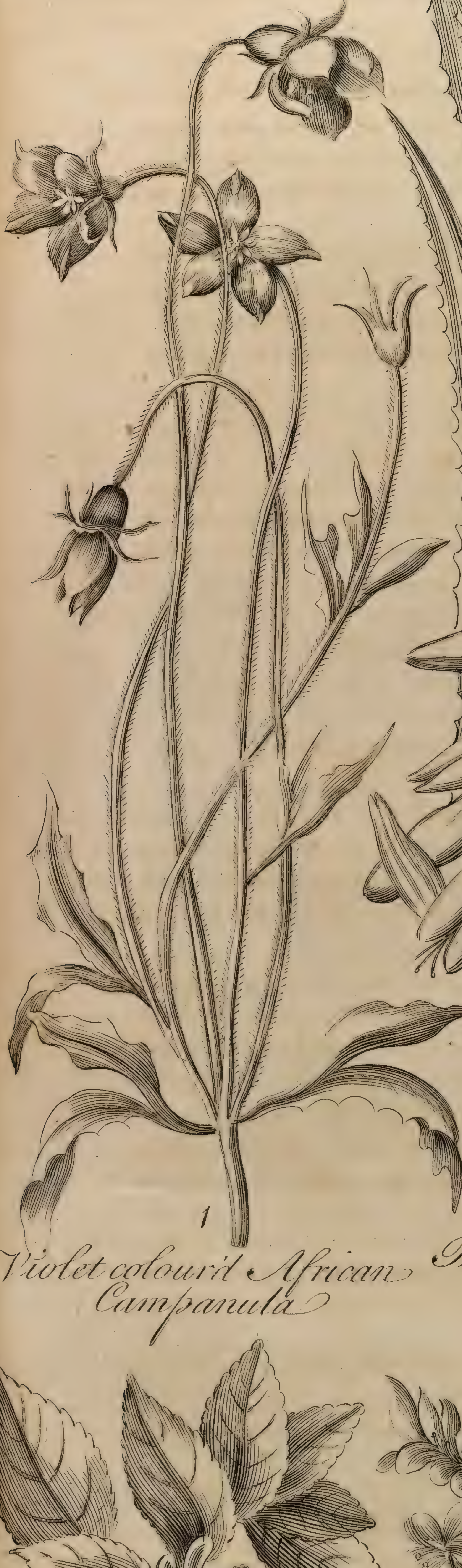
When they are well rooted, the Mats, or whatever elſe were us'd to ſhade them, may be taken off, and the next Care is to harden them to the Air. This is to be affected by raiſing the Glaſſes in the Middle of the Day; and after a Week's Management of this Kind, they may be ſet out, in the Middle of a hot Day, in a warm and well-ſhelter'd Place.

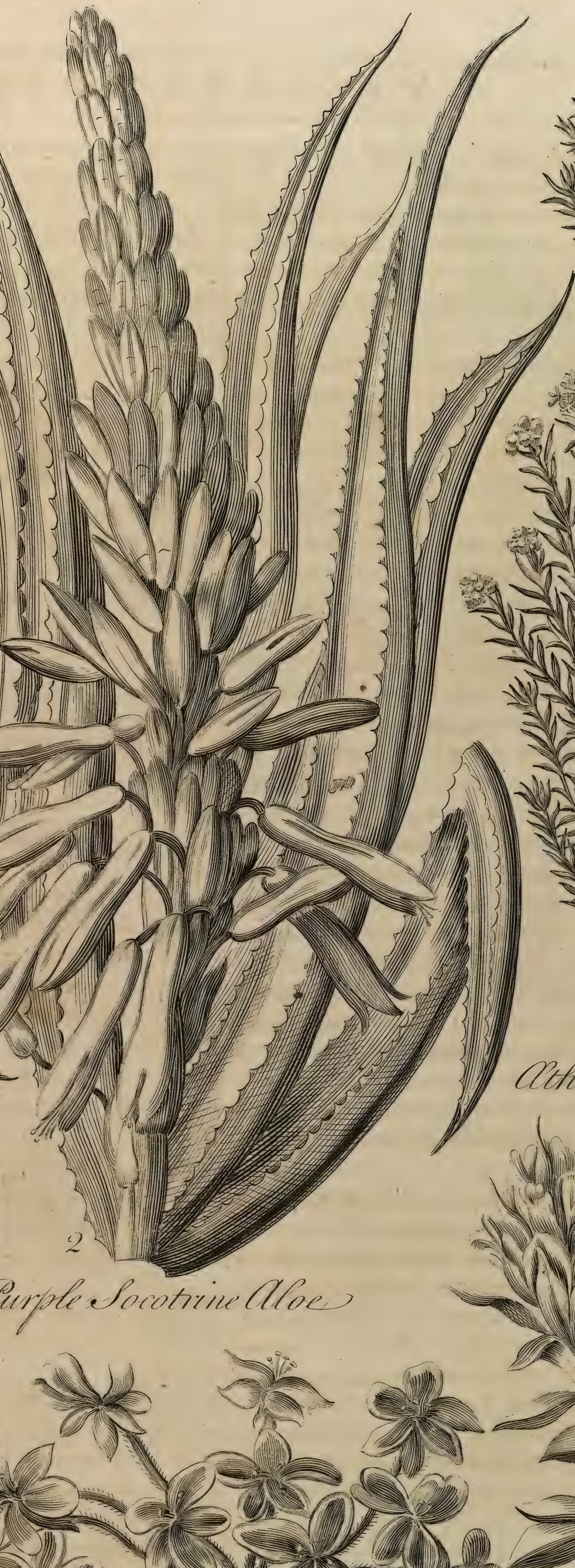
After this they muſt be water'd once in two Days, but not much at a Time; and when the Weather grows cool, they muſt be remov'd into Shelter.

They will flower the firſt Year, and continue a long Time in their Luſtre; and from that Time they will be every Year ſtronger, and will produce more numerous Flowers.

Unleſs the Seeds are wanted, it is beſt never to let them ripen upon the Plant; but let the Gardener, as the Flowers fade, nip off the Heads. this will prevent the Root from being exhauſted, tho' it make the Plant yield more numerous Flowers.

This is a general Truth, the Gardener ſhould always know, That there is more Harm done to a Root, by ripening one Head of Seeds, than by the blowing of many Flowers; for that is the laſt Work of Nature.


1
Violet colour'd African Campanula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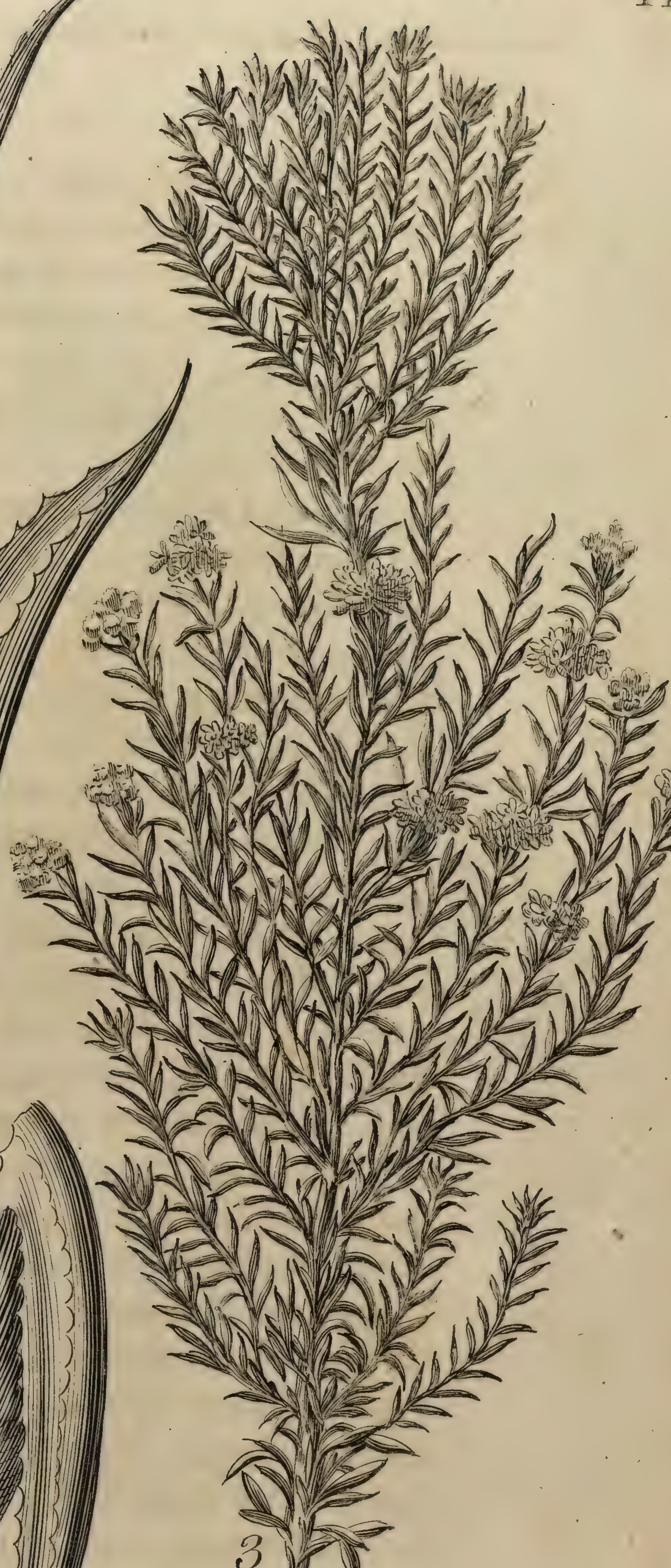
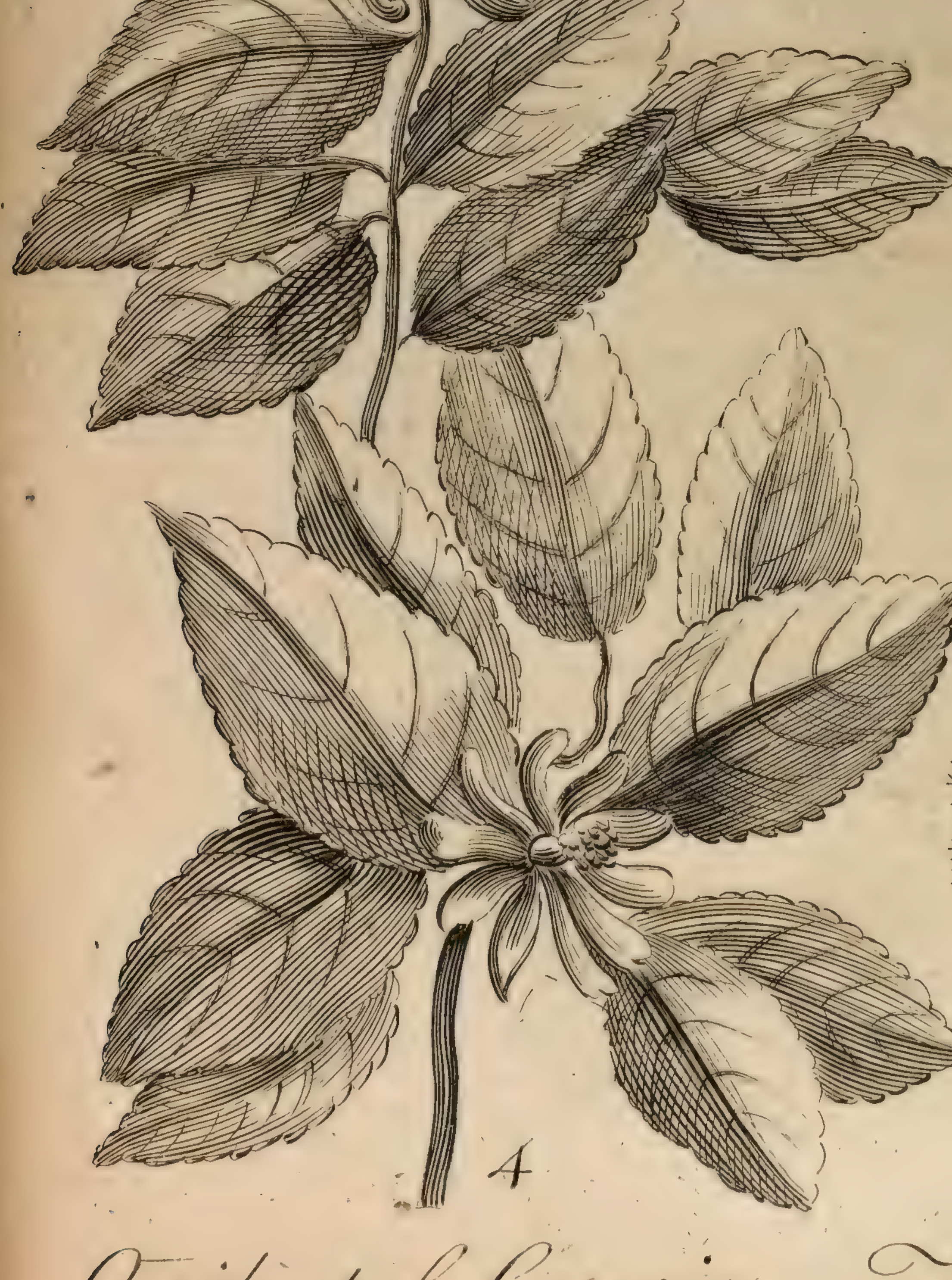
Purple Socotrine Aloe


3
Athiopian Philyca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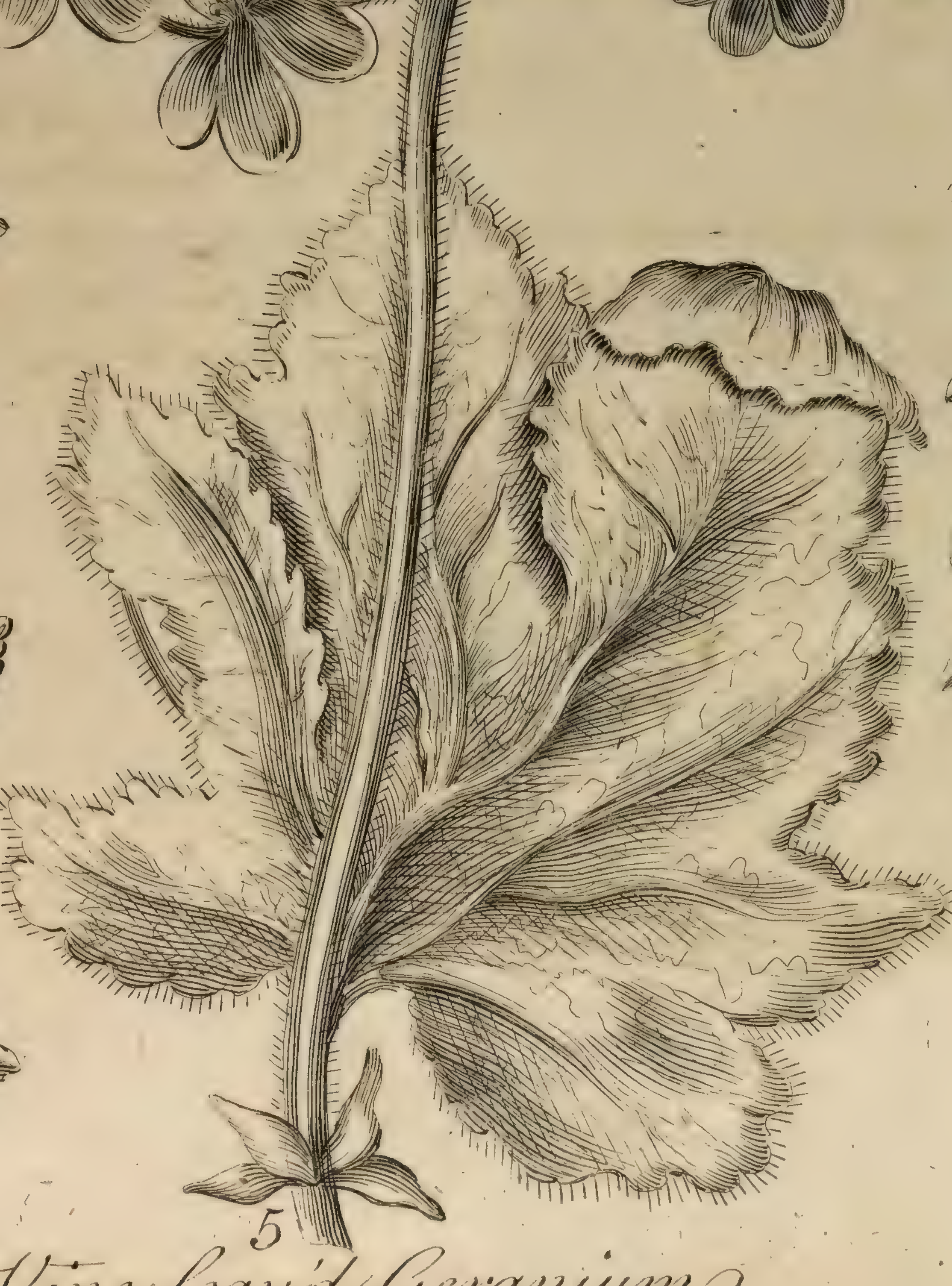
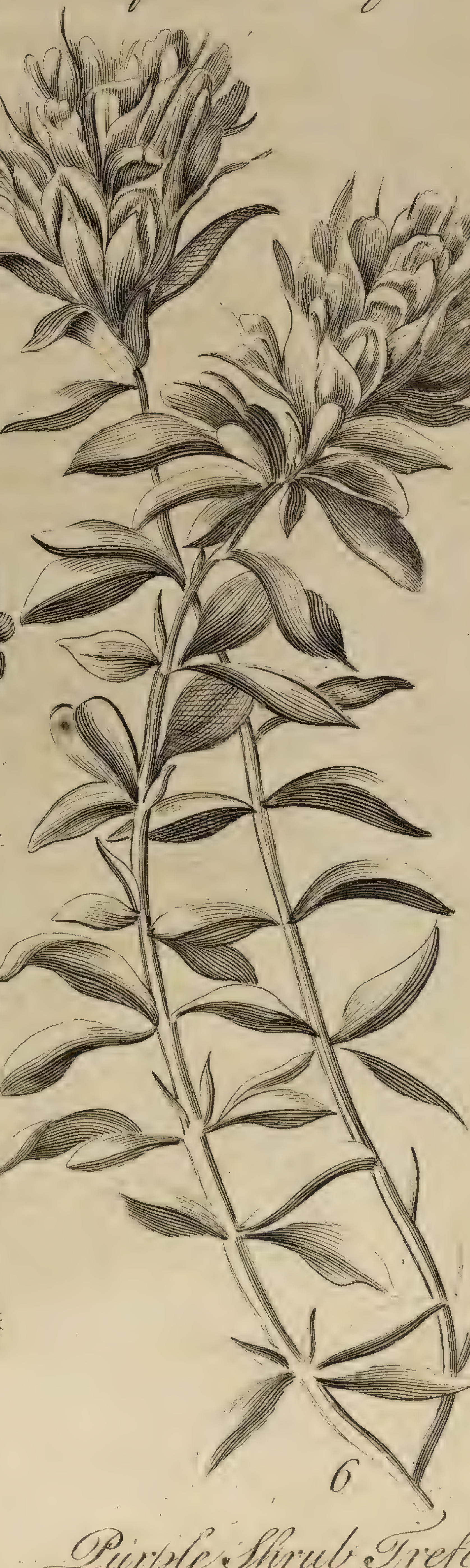
Occidental Grewia


5
Vine-leav'd Geranium


6
Purple Shrub Trefoil

CHAP. II.

The Management of the Flower-Garden.

THE Care the Gardener has already taken of his perennial Plants, naturally directs his Eyes to the Roſes and Honey-ſuckles, and thoſe other flowering Shrubs, which are frequent among Flowers, and mix well with them in the Borders.

This is a Time to give theſe the requiſite pruning.

Nature is luxuriant where the Soil is good; and as her Intent is to encreaſe the greater Part of theſe by Suckers; they never fail to be thrown out in Abundance, according to the Health and Age of the Plant.

Theſe the Gardener is to retrench, for he does not want them there; and they ſerve two very bad Purpoſes; they deform the Plants, and hurt their flowering. To have the Roſe in its full Luſtre, as much as poſſible of the Efforts of the Root ſhould be directed to the Supply of the Flower; but in this Caſe the Suckers intercept the greateſt Part of the Nouriſhment, and the more valuable Production of the Shrub is ſtarved. Theſe Suckers muſt therefore be all taken off, and the Branches pruned.

The Suckers may be planted out by ſuch as want a Supply of theſe Shrubs; for it is a very good Way of raiſing them: though that may be done alſo by Layers, and by binding; as we ſhall ſhew when we treat of the ſeveral Particulars.

The pruning of the Roſe Buſh depends upon two Articles: cutting out the dead Wood, which is always to be done at this Seaſon; and taking off too luxuriant Shoots, which may be done at Diſcretion, and never ſucceeds ſo well as at this Seaſon.

There will often riſe ſome peculiar Shoot, which the Root ſupplies at the Expence of all the reſt of the Plant; and this ſhould be prevented, either by cutting ſuch Shoot entirely away, or ſhortening it, that it may ſend out new Shoots where they are wanted.

Thus far the Art of pruning the Roſe Tree is known to the common Gardener; but no farther.

We propoſe to lead our Pupils to more Knowledge.

The firſt Principle is this: a ſmaller Number of very fine Flowers is preferable to a larger Number of indifferent ones.

It is therefore his Intereſt to reduce the Number, not when the Shrub is about flowering: but by retrenching the Branches at this Time.

The Luxuriance of Wood ſtarves Flowers, as well as Fruit; and Branches choak, that interfere with one another.

All theſe Reaſons conſpire to what we are about to direct; which is the clearing the Roſe Buſh of many of thoſe Branches at this Time, which the common pruning would leave on.

The Rule is this: firſt let all long Stragglers be ſhortened; for they deform the Shrub while they exhauſt the Nouriſhment.

Theſe being taken off, and the dead Wood cut out, and large Shoots taken away or ſhortened, the Shrub will ſhew itſelf in its right Form.

Let the Gardener now uſe his Knife more freely. Wherever one Branch ſtands before, behind, or cloſe againſt another, let it be taken off.

When three ſtand too near, let him cut out the Middle one: and in the ſame Manner proceed through the whole Shrub; leaving the Boughs at moderate and equal Diſtances; and taking Care, that as he leaves no Cluſters, ſo he make no Gaps.

This indeed is partly a Conſequence of the other; for the thick Growth of the Boughs in one Place makes the Gaps more viſible in another.

The Shrub thus cleared, he will be able to ſee through between all the Branches; and where the Eye can paſs, there can alſo the Air.

This done, and the Suckers firſt removed, let the Earth be dug about the Shrub and well broke, and let ſome good freſh Mould be ſcattered over the Bottom half an Inch thick. Thus let him go on with every Roſe Tree in the Garden; and the Conſequence will be, that next Year they will be vigorous in their Shoots; their Leaves well coloured, no Blight or Mildew will be ſeen upon them, and they will be handſomely covered with Flowers of the fineſt Kind according to their ſeveral Species.

Nothing is more common or more diſagreeable than Blights and Mildews upon Roſe Trees. Theſe in all Caſes riſe from choaked up Air, or Want of Nouriſhment; and by this Practice there will be a free Paſſage for all Vapours, and a good Supply for the Roots.

The PRUNING OF HONEY SUCKLES is a much eaſier Taſk; they are more apt to be luxuriant in ſtraggling Shoots, than in the middle Branches; and theſe long trailing Boughs are what muſt now be retrenched.

The Gardener muſt take a ſharp Knife and cut them off behind a Leaf Bud. Any other irregular Branch is to be reduced in the ſame Manner, and the Shrubs will thus be brought to Order, and prepared for making a handſome Appearance the next Year.

The Ground ſhould be alſo broken round about them by good digging, and a little freſh Mould ſcattered in over the Surface.

In the ſame Manner are to be treated the other flowering Shrubs which ſtand our Winters in the open Borders.

The Care of the Seedlings in Boxes is now to defend them from the cold Winds, and give them all the Advantage that can be of the Sun. This, and clearing them of Weeds, is all they require.

SECT. II.

The Buſineſs of the SEMINARY, *for the preſent Week.*

THIS Week it will be proper to put into the Ground the Stones of ſeveral Kinds of Plums for raiſing Stocks for the future Uſe of grafting. There is no Difficulty in this; but if due Care be not uſed they often miſcarry.

Let the Earth be opened for them a Spade's Depth: then when it has been well broken let the Surface be laid level. Upon this ſpread the Stones evenly, and at a moderate Diſtance; and cover them an Inch and a half with Mould.

Then ſpread ſome Mulch over the Surface, and ſet two or three Traps for Mice. In this Manner they will have Time to prepare for ſhooting; and they will be ſecured from the Severity of the Weather.

By this Method a great many of them will ſhoot, and there will be the Foundation of a good Supply for the ſucceeding Seaſons.

Every Year this Practice ſhould be repeated; for there is little Trouble in it; and it muſt be very agreeable to a good Gardener always to have a due Supply of them.

This is a very good Time alſo for raiſing Beech from Seed. It is a Tree that may be introduced with Advantage on ſeveral Occaſions in Gardening, and planted in waſte Ground, to the great Benefit of the Owner.

It will grow on the barreneſt and moſt rocky Soils; and the Timber is of conſtant Sale to the Upholſterers and Turners.

In large Gardens it makes a very good Hedge, and from its tall Growth is fitter than moſt other Kinds for high Plantations.

Theſe are Reaſons for raiſing Beech in the Nurſery; and as a ſmall Spot will ſerve for a great Number of Trees, let not this Opportunity be neglected.

Now is the Time for ſowing it. Let the Maſt or Fruit be got from a large and healthy Tree; and after ſpreading a few Days to harden it, let it be ſown upon a level Bed of well dug Earth, and covered an Inch with fine light Mould. Let ſome Furze Buſhes be thrown over the Bed, and ſeveral Traps ſet for Mice. Thus defended it will ſprout vigorouſly; and Year after Year, for three Seaſons, a Part of the young Trees may be drawn and planted out in other Places, the reſt ſtanding more free.

If there were Layers of any Kind made the former Year, this will be the proper Time of taking them off from the Mother Plants. They will be now rooted; and being planted out will get ſome Root before the Froſts, and be ſtrong for the ſucceeding Seaſon.

Theſe are to be treated in all Reſpects as new planted Trees; and defended from Injuries as we have directed in the preceding Numbers.

Theſe being removed, let others be layed, that they may be ready for the ſame Operation the ſucceeding Autumn. One Year roots moſt of them perfectly: there are others that require two: and this we ſhall particularly direct under their ſeveral Heads.

Plant the laſt Cuttings of the Autumn this Week; and that done, leave the Seminary for the preſent.

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SECTION III.

POMONA, *or the* FRUIT-GARDEN.

CHAP. I.

Fruits now in Seaſon.

THE Catalogue under this Article will be now every Week more and more reduced, till it come to almoſt nothing. Every Day ſome Kind that had continued ſo long is loſt; and none offer for a new Supply: therefore we muſt expect few Names of them.

There yet remain ſome Grapes, and with good Care they will continue longer.

The *Portugal* Grape, diſtinguiſhed by this Name becauſe frequently imported from that Country in the Bunch, will with due Care now begin to ripen in our Gardens. It is a very rich and noble Grape; the Bunches are large, but the Berries hang irregularly and in a ſcattered Manner; they are very large, and of a reddiſh Purple, covered with a fine blue Powder: the Fleſh is firm, and of an extremely fine Flavour.

Some Seaſons this Grape will ripen in the common Way; but in almoſt any it will ſucceed with a hot Wall, and the Taſte will be at leaſt equal to what we receive from Abroad under the Diſadvantages of Carriage.

The White Morillion is another Grape of this Seaſon; and tho' it has Diſadvantages, yet is not without its Excellence. The Skin is hard and diſagreeable, but the Juice is very rich. It is a round white Grape in thick Bunches.

The black Raiſin Grape is alſo now in its Perfection, if managed with due Care: elſe it does not well ripen. This is a large Grape in great Bunches: the Berries are oblong and black, and they are well taſted.

The Medlar and the Service, mentioned in the laſt Catalogue of theſe late Fruits, continue yet in Seaſon, and if well kept improve in Goodneſs: and from theſe, with the Aſſiſtance of the Nut Kind, and now and then a Pine-Apple, the Deſert of a handſome Table may be yet furniſhed in a tolerable Manner.

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CHAP. II.

The Care and Management of the Fruit-Garden, and Orchard, for this Week.

A GREAT deal of pruning may be done at this Time: and let the Gardener ſee that it be executed in a careful Manner.

Let him look to his Peach-Trees. The Time for pruning of theſe moſt ſucceſsfully, is a little after they have done ſhooting. This has now been over ſome Time, and the Seaſon is therefore come for the Work. Every Gardener knows that in pruning he is to ſhorten the Branches; but this in general is the Sum of their Knowledge.

They muſt be informed, that no two Trees require the ſame Degree of ſhortening: and that in order to know what is proper, they muſt examine the State of the Tree. The general Rule is, that if it be ſtrong, they may be left ſeven Inches; and if they be weak, they muſt be cut to four.

Theſe are the Rules by which the Gardener is expected to conduct himſelf; and having no others, it is not a Wonder his Buſineſs is no better managed.

There are various Degrees of Weakneſs in a Tree; and to every one a peculiar Manner of pruning ſhould be applied. Reaſon muſt go a great Way in this; but ſhe will wander, if not better guided than by ſuch vague Leſſons.

We will ſuppoſe the Gardener is ſet to prune a Peach Tree, which is weak from ill Management; as this is the Caſe too generally. He finds it full of ſhort ſmall Branches: many of theſe have their Ends dead; and the reſt are covered with weak Buds, which are neither fit to produce good Fruit, or good Shoots.

What is he to do in this Caſe? 'tis needful to enquire, becauſe it is a very common one; and at this very Time, half the Trees in our Reader's Poſſeſſion are in this Condition. They are intereſted therefore to look into it; for the ſucceeding Years Fruit depend upon this pruning.

The Gardeners, as if taught by one univerſal Maſter, follow the ſame Practice. They ſay they muſt recover the Tree; and to this Purpoſe they cut the Branches ſhort, and leave on the greater Part of them.

The Error of this Practice appears the next Year; but they are blind to it: they repeat it the Year after; and thus the Tree grows from bad to worſe, till the Gardener, whoſe ill Management has deſtroyed it, declares it old and unfit for Service; and it muſt be replaced by a new one.

The natural Conſequence of their Manner of pruning is this: the ſhortening of theſe Branches produces new ones in Abundance from them; ſo that the Tree is loaded, and they grow ſtarv'd and weak by being ſo near one another. Diſtance is the great Article in the ſtrengthning the Shoots: when they ſtand remote, they have the better Share of Nouriſhment, and the Air paſſes freely between them, which is very eſſential.

Let the Gardener, who ſhall follow our practical Directions, look to the Bottom of the Tree, and ſee what Branches have been made there the laſt Year.

If there be any of theſe tolerably ſtrong, let the Buds be taken off, and let them be nail'd to the Wall, in the Manner of the Stems of new-planted Trees.

This is the firſt rational Step toward a Recovery of ſuch a Tree.

All thoſe muſt then be cut off, that would interfere with the Diſpoſition of the principal of theſe, in a proper and free Manner, upon the Wall.

After this, let theſe ſtrong Branches be train'd in all Reſpects as new Trees ſhould be.

There are Inſtances of ſuch unfavourable Growths, that a Gardener ſhall not find any of theſe Branches in the proper Places; or fit for his Purpoſe: then let him ſelect a Couple of the beſt and ſtouteſt of the old Branches, one on each Side; and begin the Recovery of the Tree by theſe, cutting off all the ſmall Branches from them, except about five on each; which muſt be choſen for being the ſtrongeſt or the beſt plac'd.

Theſe Branches are to be nail'd up like Stems; and the ſame Care taken of them as if they were new-planted Trees, to make them ſpread in Order.

After this, every Year the old Branches muſt, one by one, be taken off, to make Room for the new ones.

This is a plain, an eaſy, and a rational Method of recovering a weak Peach-Tree; and it is certain of Succeſs.

The lower Part being thus manag'd, let the Gardener look to the upper Branches. He will, in ſuch a Tree, find many of them dead at the Tops: theſe muſt be taken off, and when he has done that, let him ſelect the moſt promiſing there are for bearing; and, clearing them to half a Foot Diſtance, nail them upright to the Wall.

Where an old Peach-Tree is full of ſtrong Wood, and has very little prepar'd for Fruiting, the following is to be the Gardener's Method of pruning:

Let him examine the Condition, State, and Origin of theſe Faults, and he will find the Miſchief has ariſen from ſhort cutting and improper nailing of Branches.

This is the common Caſe; and in general, it is equally true, that the Gardeners have been the Cauſe of the Misfortunes they lament. Let our Pupil, in this Caſe, examine the Bottom, and nail up two ſtrong Branches for Stems: then let him cut all the others out of their Way. The ſtrong Branches above muſt then be laid horizontally; and at ſuch Diſtances, that the Bearers, proceeding from them, may be nail'd upright, without croſſing the Horizontals above them.

If any of theſe Branches project over the lower Parts of the Tree, they muſt be cut off cloſe to the Part from whence they proceed.

Thus may the worſt Peach-Tree, that has but Vigour at the Root, be recover'd and brought into Form as eaſily as a new-planted one; and all the Time continue bearing.

This is the moſt difficult and nice Part of Pruning; and there is nothing in which the practical Gardener more needs Aſſiſtance.

In all this, it is eſſential that the Middle of the Tree be kept thin of Branches, for they may be eaſily ſupply'd when the Sides are taken Care of; and if the wrong Growth be permitted there, they will preſently run the Trees into the decay'd State again, from which we have juſt propos'd to recover them.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THE Products in our laſt continue, and this is not a Seaſon for ſudden Additions; we ſhall therefore avoid uſeleſs Repetitions, and enter at once upon what remains to be done in the Ground.

Celeri will be, during the ſucceeding Seaſon, a very uſeful and valuable Product; and the Time of taking Care of it, for that Purpoſe, is now. It is a Point not ſufficiently regarded, and is capable of Improvement; which, as we have Experience for our Voucher, we ſhall direct freely.

We ſuppoſe the Celeri, which is at this Time to be earthed, to have been planted in the uſual Way in Trenches, at a Yard Diſtance, and the Earth of the Trench by this Time all drawn up about them.

This is the natural Condition of a tolerably manag'd Celeri-Bed, in the End of *October*. The Plants are conſiderably advanc'd in Height ſince their laſt Earthing; and there will be double Reaſon of repeating it now, becauſe they will want it for bleaching, and for defending them from the Froſt.

For this Purpoſe, the Earth thrown up out of the Trench, having been already us'd, the Spaces between the Rows are to be dug up, and their Soil us'd for the Purpoſe: but this is ſometimes ſo ſad and damp, that it either rots the Plants, from its Wet, or gives the Froſt too much Power to deſtroy them: the Effect of Froſt being always greateſt where the Ground is moſt damp.

To prevent theſe Accidents, and at once ſecure and encourage the Crop, let there be ſpread over the Ground, that is to be dug, half an Inch Thickneſs of clean River-Sand: over this ſprinkle a little Brine, made of common Salt in Pond-water. Let this lie three Days, and then begin digging. Mix in the Sand as you dig, and break the Earth very carefully. Let it lie thus two Days more to dry, after the breaking, and then draw it up about the Plants.

The Effect of this Mixture I have always found to be this: it dries and mellows the Soil, and at the ſame Time enriches it; for it gets more by the Salt than it loſes by the Sand.

It falls cloſer about the Plants, which is a very material Article; and at the ſame Time that it perfectly ſerves for the Purpoſe of blanching them, it neither detains the Wet to rot them, nor admits the Froſt to deſtroy them.

This I have prov'd upon repeated Experience; and I have always found that the Ground, at the Year's End, inſtead of being damag'd or impoveriſh'd by this Admixture of Sand, has been improv'd by it for ſucceeding Crops.

This Care having been taken of the Celeri, at preſent, a little long Straw or Pea-ſtalks may be thrown over it, in very ſevere Froſts; and it will, ſo, be perfectly preſerv'd thro' the Winter.

Young Salleting will be very acceptable now, and it may be rais'd upon Hot-Beds; or any where under Shelter.

The Kitchen Gardeners, who ſupply our Markets, have the Art of making the moſt of their Ground on every Occaſion; and they have a very good Method in this Reſpect, which is ſowing this Salleting under the Glaſſes that cover the Cauliflower Plants.

We have directed the Gardener in the Management of theſe, and ſhall adviſe him, by all Means, to uſe this Expedient. Let him ſow the Seeds in Drills, juſt within the Edge of the Glaſſes; and take Care to gather it young. In this Caſe, it roots ſo ſlightly, that it draws nothing from the Cauliflower Plants.

A few purple and ſcarlet Radiſhes ſhould be ſown now in Places well ſhelter'd, and they will yield their Produce at a very acceptable Time.

It may alſo be proper to commit to the Ground, at the End of this Week, another ſmall Crop of Beans and Peaſe. One of theſe Crops failing, another ſow'd at ſo ſmall a Diſtance of Time, very naturally and very well ſupplies its Place.

When theſe Crops are in, and this Care taken of the Ground, the great Affair of the Autumnal Management of the Kitchen-Garden is over; but there will be ſome Employment there all Winter.

EDEN:

A
COMPLEAT BODY of GARDENING.

NUMBER X.
For the Firſt Week in *NOVEMBER.*

SECTION I.
FLORA, or the PLEASURE-GARDEN.

CHAP. I.
Flowers and Curious Plants now in their Beauty.

1. WHITE SHRUB ASTER.

Nov. Pl. X. Fig. 1. THE ASTERS decorate our Gardens in great Numbers: but this is a Species leſs univerſal than it deſerves to be; exceeding moſt of them in Beauty.

The *White Shrub Aſter* is its *Engliſh* Name; and tho' the Colour of the Flower is not to be limited by that Term, 'tis not altogether improper.

The Plant is a Native of *Africa* and *America*; and in the latter Country it produces white Flowers, tho' in the other, they are ſtain'd with a lively Purple.

The firſt Plants of it rais'd in *England*, were from *American* Seeds, and they retain'd the original Character; the Flowers being white: but, from the more burning and more barren *African* Soil, it glows with a very lively Colour.

PLUKENET, acquainted only with the *American* Kind, has call'd it *Aſter Maritimus fruticoſus Hyſopi foliis confertis flore albo.*

LINNÆUS diſtinguiſhes it from the reſt of that numerous Tribe, by the Name, *Aſter foliis linearibus faſciculatis punctatis, pedunculis unifloris nudis, caule fruticoſo rugoſo:* Rough ſhrubby-ſtalk'd *Aſter*, with narrow, cluſter'd, and punctated Leaves, and with ſingle Flowers on naked Foot-ſtalks.

Nov. We recommend to the Gardener to get his Seeds from *Africa*; or to raiſe the Shrub from Seeds or Cuttings, obtain'd from Plants in our own Gardens, that have been of *African* Origin; for the Difference is vaſt in their Beauty.

It is a low, tho' ſhrubby Plant.

In its native Climate it does not riſe to more than three Foot; and, with good Management, we may bring it to the ſame Size here.

The Root is woody, brown, and terminated by white Fibres.

The Stem is covered with a rough grey Bark, and it ſpreads out into numerous ſcatter'd Branches, whoſe Twigs are purpliſh.

The Leaves are narrow, numerous, and of a freſh green: eight or more of them uſually riſe at the ſame Joint; and of among theſe the Foot-ſtalk of a Flower. This is naked, and an Inch and half long.

On its Top ſtands a ſingle, large, and very beautiful Flower, white in the *American*, with a pale ſtraw-colour'd Diſk; but in the glowing *African* Kind, the Rays are purple, and the central Part of a gold yellow. This it keeps, ſo far as I have ſeen, always in the Seedling Plants, as well as thoſe rais'd from Cuttings.

The Flowers, at Evening, have a faint Sweetneſs; and the whole Plant a warm and aromatic Flavour.

The Flower, examined ſtrictly, is found to be compos'd of numerous ſlender Rays, and a Cluſter of Floſcules in their Centre. It is plac'd in a ſcaly Cup, fram'd of numerous Parts; and the Seeds which follow, are retain'd only in this Cup without a Capſule; and are wing'd with Down.

We have explain'd to the Student already the general Nature of radiated Flowers. The Petals or Rays he is to regard in this no farther than in other ſimilar Caſes; they are an ornamental and defenſive Part; but they have no Office in the Impregnation of the Seeds, nor are they to be regarded in ſearching the Claſs of the Plant.

That is to be ſought in the Floſcules of the Diſk, or Central Part. Theſe are ſo many diſtinct Flowers, and they are here of two ſeparate Kinds, both in their outer Form and in their internal Conſtruction.

In the Body of the Diſk are plac'd many of theſe, which are tubular, ſmall at the Baſe, expanded at the Mouth, and there divided into five Segments. On the Verge, or round it, are ſet ten or more Floſcules of a different Form, tubular and ſmall at the Baſe, but at the Rim flat and plain, terminating in three Points.

Theſe diſtinct Kinds of Floſcules are found in many other of the Compoſite Flowers, and are diſtinguiſh'd by peculiar Names: the hollow ones occupying the Centre of the Diſk, are call'd *tubulated*; and the flat ones at the Edge, *ligulated*: theſe let the Student retain in his Memory: they are the diſtinctive Terms of Science.

In each of the tubulated Flowers, occupying the Centre, are five ſhort Filaments, whoſe Buttons coaleſce, and form a tubular Body.

In the ligulated Floſcules of the Rim, there are no Filaments, but only the Rudiment of the Seed with its Stile.

The tubulated Flowers are therefore underſtood to be hermaphrodite, and the ligulated female.

The tubulated are the only perfect ones, and therefore it is in theſe the Student ſeeks the Characters of the Claſs. He ſees the Buttons of the Filaments coaleſce, and this declares the Plant to be of the Nineteenth, the *Syngeneſia*: the Character of that Claſs being the Coaleſcence of the Buttons into a Cylindric Body.

It remains, that he enquire under which of the ſeveral Sections in that Claſs it is to be arrang'd.

Theſe Subdiviſions are here form'd upon the Manner of the Impregnation.

The Student has obſerv'd that the female or ligulated Flowers are deficient in the male Parts; and we have told him thoſe of the tubulated Kind, in the Centre, are hermaphrodite; that is, they are not defective in the female Parts.

When he has obſerv'd the Conſtruction of the Filiaments and their Buttons, let him remove them, and he will find within the Baſe of the Floſcule a compleat Rudiment of the future Seed, with its ſlender Style crown'd with a divided Top, or Stigma; this ſhews that all the Parts of Fructification are in theſe Flowers, and this explains the Manner of Impregnation.

The Duſt from the Buttons impregnates the Rudiment of the Seed within the ſame Flower; and ſuch of it as is ſcattered by the Motion of the Air, falling caſually into the ligulated or female Flowers of the Rim, which have no male Parts of their own, impregnates alſo the Rudiment of the Seed that is in them. This give Origin, in the LINNÆAN Syſtem, to the Term *Polygamia*; that is, that the Impregnation of the Seeds perform'd in various Manners.

In this Plant we ſee the Buſineſs of Fructification could be carry'd on without them; for the tubulated Flowers have Seeds of their own, which would ripen from the Duſt of their Buttons.

Hence riſes a ſecond Diſtinction, which is that of *ſuperfluous*: there are Plants of this *ſyngeneſious* Claſs and of the *polygamous* Diviſion, whoſe Central Flowers, which have the Buttons or Male Part, are defective in the Rudiment of the Seed, or in ſome of thoſe Organs by Means of which it ſhould be impregnated: in theſe the Duſt of the Buttons ſerves only to impregnate the female Parts in the ligulated Flowers of the Rim.

In this Caſe, the various Diſtribution is deem'd *neceſſary*, and thence the Origin is taken of a new Subdiviſion.

It is in Diſtinction from this, the Plant, now under Conſideration, is call'd one of the *polygamous ſuperfluous* Kind.

It's Place therefore in the LINNÆAN Syſtem, is among the *Syngeneſia polygamia ſuperflua*.

Let not the curious Reader ſlight this Diſquiſition; there are many other Plants of the ſame Character: and the proper Effect of the Enquiry, is not Neglect, but Wonder.

Culture of the SHRUB ASTER.

We have occaſionally obſerv'd already, this Plant may be rais'd either from Seeds or Cuttings; but the Gardener is not to ſuppoſe, for that Reaſon, the Choice is a Matter of Indifference. The Cuttings are only to be employ'd when Seeds cannot be had, or when the Impatience of the Proprietor prefers ſudden to perfect Growths.

We ſhall recommend the Method by Seeds; and whether they be obtain'd from *Africa*, or ſav'd here, the Method is to be the ſame.

Let a Hot-Bed be prepar'd for them early in Spring, and at the ſame Time let this Compoſt be made.

Throw in a Heap two Buſhels of Wood-Pile Earth, one and a half of Mould, from under the Turf in a rich Paſture; five Pecks of Sand, and one Peck of wet Duſt, from ſome Road where Horſes ſtale; mix this very well together, and ſprinkle over it ſix Ounces of Salt: let theſe be turn'd, from Time to Time, and let no Weeds grow upon them.

At the ſame Time the Compoſt is made, let the Seeds be ſown. This is to be done, and the Plants manag'd in the common Way.

We have deſcrib'd this at large now in ſeveral Inſtances; and ſhall not, like others who have written on this Subject, ſwell the Pages with a tedious Repetition.

From the firſt Hot-Bed they are to be tranſplanted to a ſecond, thence into Pots of this Compoſt; and, after that, they are to be expos'd to

Nov. to the Air in the Height of Summer; remov'd at Autumn into the Green-houſe; and if need be, in Winter, into the Stove.

All that is requir'd particularly, is, that they be water'd often. The Wet will readily run off thro' this looſe Soil, if the Openings be not clog'd: and when the Buds appear for flowering, they muſt be hous'd, and kept well water'd, and duly warm.

By this Management, if the Gardener be careful to nip off the Flowers as they fade, there will be a Succeſſion from *September* to *April*, and a vaſt Number on the Plant at a Time.

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2. CARIBBÆAN SWEET PANCRATIUM.

Pl. X. Fig. 2. This is one of the fragrant Beauties of the warmer Climates, which will live freely in our Country with a ſuited Care, and will very amply repay the Attention that is beſtow'd on it.

The common Writers have call'd it a *Narciſſus*; for the true Diſtinction of the Bulbous Plants is but of late Origin: the World owes it to the Labours of Linnæus.

Commeline names it *Narciſſus Americanus flore multiplici albo hexagono oderato.*

Sir Hans Sloane, by a much better conſtructed Denomination, *Narciſſus totus albus latifolius polyanthus major odoratus.*

Linnæus, in his more accurate Diſtinctions, refers it to the *Pancratium* Kind, and calls it, *Pancratium ſpatha multiflora foliis lanceolatis:* Many flower'd *Pancratium*, with ſpear-pointed Leaves.

The Root is a Bulb, of the Bigneſs of a Man's Fiſt, and of a Pound or more in Weight: its outer Coat is of a reddiſh brown; the inner ones are white; and from the Baſe run many thick white Fibres.

The Leaves riſe in a Cluſter, and are two Foot long: they are conſiderably broad, ſharp-pointed, and of a lively green. They have many Ribs running length-wiſe, and theſe ſwell out in the under Part.

The Stalk is flatted, thick, upright, and of a pale green. It riſes in the Centre of the Leaves, and is two Foot or more in Height.

At its Top appears, at firſt, an oblong Bud; which, when the Stalk is at its Height, burſts, and diſcloſes a rich Cluſter of large and moſt extreamly fragrant Flowers.

Theſe are of a Snow-white throughout, and of conſiderable Duration: and when they fade, there appears, after each, a ſhort three-corner'd Seed-veſſel, full of numerous round large Seeds.

Thus much the vulgar Eye perceives; but that of Science will penetrate farther.

The whole Cluſter of theſe noble Flowers was at firſt encloſ'd in a leafy Scabbard, which ſhew'd itſelf upon the Summit of the Stalk: this burſts ſide-ways to give them Room, and divides into two or three Parts; after which, having perform'd its Office, it fades, withers, and falls.

Each Flower conſiſts of a Nectarium and ſix long Petals. The Nectarium, which in the generality is ſmall and inconſiderable, in this is large, conſpicuous, and forms the Body of the Flower; the Petals being inſerted into it.

This riſes with a ſlender tubular Baſe, which, by Degrees, expands; till at the Rim or Mouth it is very wide, and is divided into twelve Segments. On this are inſerted the Petals and the Filaments.

The Petals riſe from its Outſide, ſomewhat below the indented Verge, and they are very long, narrow, and turn'd backward.

Upon the Edge of the Nectarium are plac'd the Filaments. Theſe are ſix. They are long, ſlender, and very conſpicuous: their Baſe is whitiſh ting'd with green, and their Buttons are of a ſhining yellow.

In the Centre of theſe riſes, from the Rudiment of the Seed-veſſel, a ſingle ſlender Style, which has an obtuſe Top.

If this had been the firſt *Pancratium* we had deſcrib'd, the Student could not have been at a Loſs to have diſcover'd what were its Claſs and Place in the Linnæan Syſtem. Six Filaments and a ſingle Style declare it to be one of the *Hexandria Monogynia* of that Author; thoſe which have ſix male Parts, and the female ſingle.

The Bigneſs and the ſnowy Colour of theſe Flowers, added to their Number in the Cluſter, which is uſually ten or twelve, would ſufficiently claim for it a Place in our Collections; but there is nothing in the Flower-Kind which at all reſembles its Fragrance. This is in the higheſt Degree delightful and peculiar.

We are accuſtomed to the Sweet of the *Jonquill*, and other Flowers of Kinds approaching to the *Pancratium*; but there is in them a Faintneſs with all the Fragrance. The Scent here is mix'd of the perfume and aromatic, and reſembles that of ſome among the richeſt of the Oriental Balſams; filling the Senſe, without palling or diſguſting it.

Culture of the Caribbæan Pancratium.

There is ſomething peculiar in the Soil where this Plant naturally grows, and that we ſhould imitate.

It is a Native of the hotteſt Parts of the *Weſt-Indies*, and there burſts out among thoſe ſcattered Buſhes which edge their Foreſts. It loves ſome Shade, and a light Earth, enrich'd by rotten Wood.

This we can eaſily give it here; and on the right Management, in this Reſpect, will depend the Glory of its Flowers.

Prepare for the Reception of the Roots the following artificial Soil:

Mix equal Parts of Earth from under the Turf in a good Paſture, and that from the Bottom of a

Nov. Wood-Pile; add to this one eighth Part of large Sand, and ſcatter over it a little freſh made Lime.

Let this lie four Months to mellow, and it will then be ready for Uſe.

Fill half Way up with it ſeveral Pots, and place evenly upon it Roots obtained from the *Weſt-Indies*; or Off-ſets from ſuch as have grown in other Gardens. The Difference is very great; but when the fine native Roots cannot be had, we muſt be content with the others.

The taking away the Off-ſets is an eſſential Part of the Care and Management of the Plant, becauſe they always weaken it when they are ſuffered to remain, and prevent the Beauty of its full Tuft of Flowers. Whether ſeparated from them for this Cauſe, or obtained for the raiſing of the Plant, the Management muſt be the ſame as that of the full grown Roots brought over for that Purpoſe.

If there be an Opportunity of getting well grown Roots from the Spot, Directions muſt be given for taking them out of the Ground as ſoon as their Leaves are withered, and tying them up ſingly, for ſending over by the firſt Ship. They will come thus without the leaſt Damage, and will rather be ſtrengthened than hurt by being kept that Time out of the Ground.

Various as the Condition and Value of theſe ſeveral Kinds of Roots and Off-ſets are, the ſame Method is to be followed.

Let ſome Pebbles be put into the Bottom of each Pot; and then as much of the Compoſt poured in as will half fill it, or more, if for an Off-ſet; but ſomewhat leſs if for a full grown Root.

As ſoon as the Roots arrive, plant them one in each Pot; or if they be Off-ſets, as ſoon as they are taken from the Mother Root. Nov.

Pour in more of the Compoſt about them, and let it riſe half an Inch above their Head.

Let the Pots be then ſet in a warm, ſheltered, and ſhady Place: give them once in four Days a very little Water, and thus let them remain till Autumn. Then bring them into the warmeſt Part of the Garden, and let them ſtand till the cold Nights begin to threaten.

They will by this Time have ſent up the firſt Shoots of their Leaves; and they muſt then be removed into the Greenhouſe, and after ſome Days into the Stove. Here they are to be watered now and then; and the Earth at Times ſtirred at the Top of the Pots. They will thus get Strength during the Winter; and the next Year the full grown Roots will flower: ſometimes during the Winter.

The Off-ſets will be longer before they ſhoot for flowering; and if Care be omitted, they will come on but weakly: but with right Management they will in Time become equal to the full grown Roots, except to ſuch are new brought from their native Climate.

After this they muſt be taken up once in two Years, and their Off-ſets removed and nurſed up ſeveral together in a Pot, till they come towards flowering.

This is the Method of making this elegant Plant flower favourably; and of enſuring a Succeſſion: all that is required to give it Strength for flowering well, is to pare away the upper Part of the Earth once a Year; and when the Shoot for a Stalk appears, to forward it by frequent Waterings.

3. HERBACEOUS TETRAGONIA.

Pl. X. Fig. 3. The Singularity of this Genus could not fail of recommending it to the Curious, tho' it were wholly defective in Point of Beauty.

Every one who has treated of it has been ſtruck with the Peculiarity of its Aſpect; and many have deſcribed, who know not what to call it.

Seba has given a Figure of a ſhrubby Species of it, under the Name of *Eunonymo affinis portulacæ folio:* and Commeline calls this *Tetragonocarpos Africana radice magna craſſa et carnoſa.*

Linnæus ſoftens the Name, and writes it *Tetragonia*, adding a Diſtinction from the Figure of the Leaves, *foliis ovatis:* oval-leav'd Tetragonia. The other being ſhrubby, and this a tender ſtalked Plant, the familiar *Engliſh* Name is derived thence, Herbaceous Tetragonia.

The Root is vaſt ſoft, tender, yellow, and long, hung with a few Fibres, and of a pleaſant Taſte.

Many Stalks grow from the Head of this, and they ſpread wantonly upon the Ground, ſtraggling irregularly on the Surface free, or entangled one among another. They are round, tender, purpliſh or yellowiſh at the Bottom, elſewhere green, and not much branched.

The Leaves are placed upon them ſingly and irregularly.

They are ſmall at the Baſe, and gradually enlarge to a broad rounded End. Their Colour is a lively green, and their Ribs are ſcarce perceptible. They are thick and juicy, and have a pleaſant ſub-acid Taſte.

The Flowers are very numerous, and of a perfect gold Colour. They are not large, but each has in its Centre a vaſt Tuft of Filaments, all of the ſame gold yellow.

The Seed-Veſſel is very ſingular; it is of a ſquare Shape, and of a woody Subſtance. Four Edges mark the Angles, and they are raiſed into a Kind of Wings. Within is contained a ſingle Stone, in which are four Kernels.

The Flower is placed ſingly on its Foot-ſtalk, and has no Petals. The Cup is very conſiderable and conſpicuous: it is compoſed of four yellow Leaves, which from their Colour are, by leſs accurate Obſervers, taken to be Petals, and properly to compoſe the Body of the Flower; but they are evidently no more than a Cup; and they are permanent, remaining with the Fruit.

The Tuft of Filaments amounts to twenty; they occupy the Centre at their Origin, and ſpread out at the Ends; and they have oblong Buttons.

From the Inſertion of theſe Filaments the Claſs is to be determined. We have acquainted the Reader that the Icoſandria and Polyandria in the LINNÆAN Syſtem, the twelfth and thirteenth Claſſes, differ only in the Place where the numerous Filaments characteriſing both ariſe. In the Icoſandrous Claſs theſe Filaments grow to the Inſide of the Cup; and in the Polyandrous to the Receptacle. This laſt is their Place in the preſent Plant; therefore it is one of the polyandria of that Author. Thus far having been examined, the Styles are to be ſought. They occupy the Centre of the Tuft, and they are four: therefore the Plant belongs to that Diviſion of the Polyandria, which is thence called Tetragynia.

Culture of the HERBACEOUS TETRAGONIA.

It is a Native of *Africa*, and there thrives beſt in deep rich Soil, where there is ſome Shelter.

This we are to imitate. The Seeds are the proper Source for propagating it: and as they ripen very well with us, they may be ſaved for that Purpoſe here, when there is not an Opportunity of having them from abroad.

Theſe ſhould be ſown in the open Ground in the following Manner.

Dig up a Border, or Piece of a Border, where the Mould is very fine, and well enriched with Dung that has had Time to rot in it. Rake the Surface even, and ſcatter on the Seeds.

Sift over them the ſame Mould half an Inch thick, and then throw ſome Furze Buſhes upon the Ground. Over theſe lay a Mat, raiſing it with a Brick here and there at the Edges.

In this Method the Ground will be kept warm and moiſt, and there will be Air.

Theſe are the Advantages the Seeds want; and in this Condition they will ſhoot in a moderate Time; otherwiſe it is very uncertain whether the Plants will riſe at all, or when.

Here let them take their Time; for according to their Age, their Degree of Ripeneſs, and Manner of curing, they will ſhoot much ſooner ſome Times, and at others later.

When they begin to appear, let the Mat be raiſed higher from time to time; and the Furzes being removed, let them have frequent gentle Waterings.

When they have obtained five Inches in Height, let them be planted out into Pots; and no Compoſt made for them, but only uſe the beſt and richeſt Garden Mould.

Let a little of this be put in the Bottom of each Pot, and then a Plant raiſed with a good Ball of its own Earth about it: let this be placed upright in the Pot, and then the whole filled to the Rim with Mould.

When it is well fixed give a gentle Watering.

All the Plants being thus potted, let them be ſet in a ſhady ſhelter'd Place, and once a Day water'd, till they have taken Root.

Then let them be plac'd among the Green-houſe Plants, and at the Approach of Autumn remov'd into Shelter.

They will often flower the firſt Year, always the ſecond: and their wild Way of hanging down the Sides of the Pots is very pleaſing.

In Winter they muſt have a little Water, and a great deal of Air.

They are hardyer than moſt of the *African* Plants; but they die if choak'd.

4. SPOTTED AFRICAN HEBENSTRETIA.

Pl. X. Fig. 4. This is another of thoſe Exotic Plants whoſe Singularity is its great Recommendation. It has nothing of that gorgeous Beauty which fills the Eye in the large-flower'd Plants; but Variety is to be conſulted in theſe Collections next to Shew. This Plant ſerves excellently for that Purpoſe, and at the ſame Time is not without its Prettyneſs.

Moſt who have ſearch'd *Africa* for Plants, have been ſtruck with the Singularity of this, and have given it a Place in their Works, tho' uncertain to what Genus it belong'd, or by what Name to call it.

BURMAN makes it a *Pedicularis*; COMMELINE, a *Valerianella*; and RAY calls it *Valerionoides*.

This Diverſity ſhew'd the Defect of a new Genus, which LINNÆUS has ſupply'd, calling it *Hebenſtretia*; and adding, for Diſtinction, *foliis dentatis:* Dentated-leav'd *Hebenſtretia*.

The Root is fibrous, whitiſh, and ill-taſted.

The Stalks are numerous, and grow irregularly. Some lean upon the Ground, and others ſtraggle irregularly over the Surface; but thoſe in the Midſt uſually riſe tolerably erect, and are a Foot and half in Height. They are round, edg'd, tender, purple at the Bottom, green toward the Top, and not much branch'd.

The Leaves are numerous, and plac'd irregularly: they have no Foot-ſtalks, and their Colour is a lively green, often ting'd with purpliſh. Thoſe, from the Root, are very deeply divided; thoſe on the lower Part of the Stalk ſharply dentated; and ſuch as grow toward the Top, not at all ſerrated.

The Flowers are ſmall, but their Diſpoſition renders them conſpicuous. They ſtand in long Spikes at the Tops of all the Branches. Their Colour is a pure and perfect white; but in the Centre there is a Spot of a fine glowing red.

Each Flower is plac'd in a Cup form'd of two Segments, divided in the Manner of Lips; the lower of which is irregularly ſhap'd, and much longer than the other.

The Flower itſelf is form'd of a ſingle Petal; and is tubular at the Baſe, and divided at the Extremity in four Places: it runs up in Form of a ſingle Lip, anſwering to the under Lip of the Cup. From the Sides of the Lip, toward the lower Part, ſpring four Filaments, crown'd with their Buttons; they are all ſhort, but two of them are ſomewhat longer than the others; and from the Baſe riſes a ſingle Style.

This Diſtribution of the internal Parts, marks very plainly the Place of the Plant in the LINNÆAN Syſtem. It is one of the *Didynamia*, Plants whoſe Flower has four Filaments, of which two are longer than the others.

To know in what Section of that Claſs it is to be plac'd, we are laſt to examine the Seed. This, in ſome of the *Didynamia*, is encloſ'd in a Capſule, and in others ſtands naked; hence riſe the Characters of the two Subdiviſions, the one being call'd *Gymnoſpermia*, and the other *Angioſpermia*.

The Seeds in this are contain'd in an oblong, conic, and ſharp-pointed Capſule: it is therefore one of the *Angioſpermia*.

Culture of the HEBENSTRETIA.

This Plant is a Native of *Africa*; and it there grows in dry looſe Soils. We have from this the general Rule for its Culture.

Let a Compoſt be made for it in Spring, of freſh Mould, Sand, and Wood-Earth, each equal Quantities; and let this lie together, till the Plants rais'd from Seeds ſhall be fit for Potting.

They may be rais'd either from Seeds imported from *Africa*, or from ſuch as are ripen'd here.

Which ever are choſen, they muſt be ſown early, on a Hot-Bed; tranſplanted afterwards to a ſecond, and then planted out, into Pots of this Compoſt.

In theſe they muſt be, by Degrees, harden'd to the Air; and when they have acquir'd a due Growth and Strength, they are to be ſet out among the Green-houſe Plants, and remov'd into Shelter in Autumn.

When the Plants have been thus rais'd, they may be propagated farther, by parting of the Roots; but that Method does not afford either ſo large or ſo handſome ones as thoſe rais'd from Seeds.

One great Diſadvantage attending the latter Method, is, that for ſeveral Seaſons they blow weakly and poorly. Bad Management will alſo loſe the Spot in the Flower.

5. The SCREW TREE.

Pl. X. Fig. 5. If any Vegetable can, for its Singularity, demand a Place in our Exotic Collections, this it will be impoſſible to refuſe.

The Leaves, if the Growth ſhould never advance farther, are very large and handſome: the Flowers have their Beauty, and the Seed-veſſel has a Singularity of the moſt extraordinary Kind.

We name it from the Figure of this Part, the *Screw Tree.*

Some call it, after its *Indian* Denomination, *Iſora*, that being *Iſora Murri.*

Sir HANS SLOANE has deſcrib'd it under the Name of *Abutilo affinis fructu funis ad inſtar convoluto.*

LINNÆUS calls it *Helicteres*; adding, by way of ſpecific Diſtinction, *foliis cordatis ſerratis, fructu compoſito contorto:* Heart-like and ſerrated-leav'd *Helicteres*; with a compound twiſted Fruit.

In its native Climate it riſes to a middle-ſiz'd Tree; and with us will grow to a good Height and in a beautiful Proportion.

The outer Bark is of a greyiſh brown, the inner green, and the Wood whitiſh. The Rind of the young Shoots has an auſtere Taſte.

The Leaves have ſhort brown Foot-ſtalks; and they are themſelves large and very handſome: they are broad, finely colour'd with a ſtrong green, and of a firm hard Subſtance. They are ſomewhat hairy on the upper Side; and their Taſte is auſtere and bitter.

The Flowers grow from the Knots or Joints of the young Branches; ſometimes ſingly, ſometimes two or three together, and they have ſhort pale Foot-ſtalks. They are of a delicate Texture, and of a very gloſſy and beautiful yellow.

Each is plac'd in a Cup form'd of a ſingle Piece, tubular at the Baſe, and divided by three deep Indentings at the Top, where it opens in an oblique and very peculiar Manner, reſembling the Ear of ſome Quadrupede. The Subſtance is tough, and the Colour yellowiſh.

The Flower itſelf is compos'd of five deep Segments, reſembling ſo many Petals, and there is within it a Nectarium, compos'd of five Parts, reſembling ſo many more Petals, tho' ſmall; and covering the Rudiment of the Fruit.

Upon this Rudiment at the Baſe ſtand ten very ſhort Filaments, on which are plac'd ſide-ways as many oblong Buttons. In their Midſt riſes a ſingle Style, which is very long and bent, and bears upon its Top the Germen, which is there roundiſh. The Fruit follows; and exceeds that of all the Vegetable Kind in Singularity. It reſembles a ſpiral Shell or Screw: it is long and ſlender; largeſt at the Baſe, and pointed at the End; and twiſted.

It is compos'd of five very long and very ſlender Capſules, which turn in a ſpiral Manner round one another, and reſemble the ſeveral Threads of which a Rope is form'd. In each of theſe there are ſeveral Seeds, which are ſmall and Kidney-ſhap'd.

Pl: 10.

1 White Shrub Aster
2 Caribæan Sweet Pancratium
3 Herbaceous Tetragonia
4 Spotted African Hebenstretia
5 The Screw Tree
6 Sampire leav'd Tanzy

Nov. The Student obſerving the Place of the Filaments in this Flower, will recollect that it is the Character of a peculiar Claſs. The *Gynandria* (Twentieth in the LINNÆAN Syſtem) comprehends thoſe in whoſe Flowers the male Parts or Filaments, bearing the Buttons, grow upon the female. This is here the Caſe, and the *Helicteres* is therefore one of them.

The ſubordinate Diſtinctions of this Claſs are made according to the Number of the Filaments: that being only the Mark of a ſeparate Section here, which would be, if they grew otherwiſe, the Character of a Claſs. The *Helicteres* having ten Filaments, belongs to the *Decandria*, which is the ſixth Section.

Culture of the SCREW TREE.

Nature has generally plac'd this Tree in a looſe light Soil; but ſuch as has ſome Richneſs: this we ſhould imitate; and adding to this a Degree of Warmth, ſuited to that of its natural Climate, we ſhall do all that can be requir'd for its Growth and Preſervation. Let the Soil for it be thus prepar'd:

Mix together two Buſhels of dry Paſture Earth, one and a half of large Sand, one Buſhel of Wood-Pile Earth, and one Pound of Stone-Lime. Lay theſe together early in Spring, and they will be mellow by the Time they are wanted.

This being prepar'd, the Seeds of the Tree are to be ſown. They ſhould be obtain'd from Abroad in the Fruit, which will preſerve them very well, and they will be fit for Vegetation. They may be had from the *Eaſt-Indies* or the *Bahama* Iſlands; and they are to be ſown thus:

Fill a Couple of Pots with good Garden-Mould, and ſcatter upon the Surface the Seeds, thin and ſparingly: cover them a Quarter of an Inch, or a little more, with the ſame Earth, and ſet the Pots in a Bark-Bed of temperate Heat; give them a gentle Watering, and at Night draw a Mat over the Glaſs of the Frame. Nov.

In the Day remove the Mat; and when the Sun is hotteſt, open the Bed a little, by raiſing the Glaſs with a notch'd Stick. Water the Earth very gently from Time to Time; and when the Plants appear, continue theſe Waterings; only be careful not to beat down their Stalks.

All this while let the Earth, prepar'd for their Reception, be turn'd from Time to Time; and let the Air be admitted to the Plants in the Middle of the Day.

When they have got ſome little Height, let them be tranſplanted each into a ſeparate Pot fill'd with the Compoſt, and gently water'd, and then ſet into the Bark-Bed again.

From this Time they will only require to be water'd and ſhaded till they are well rooted, and then to be harden'd by Degrees to the Air, by opening the Glaſs of the Bed in the Middle of the Day; and nouriſh'd by frequent Waterings.

When they have thus acquir'd ſome Strength and Hardineſs, they muſt be remov'd into the Stove, for they will not at any Time be ſafe in the open Air.

In the Middle of our hotteſt Days, the Glaſſes of the Stove muſt be open'd, to give them and the other Plants free Air, and they muſt be water'd frequently. At Times they muſt be tranſplanted into Pots of a larger Size, fill'd with the ſame Compoſt; and in theſe they will flower the third Year.

6. SAMPIRE-LEAV'D TANZY.

Pl. X. Fig. 6. This Plant does not want Beauty to plead its Admiſſion into our Collections; and it has, with that, a great deal of Singularity.

Moſt of the late Authors have deſcrib'd it; but it has had almoſt as many Names, as they are who have mention'd it.

COMMELINE calls it an *Elichryſum*; PETIVER an *Ageratum*; and VAN ROYEN a *Santolina*. This laſt Name was given it alſo by LINNÆUS in his earlier Writings; but in his later, upon more accurate Enquiry and Diſtinction, he has refer'd it to the Tanzy Kind.

He calls it *Tanacetum foliis pinnatis, pinnis linearibus, remotis, integerrimis:* Pinnate-leav'd Tanzy, with narrow, remote, and undivided Pinnæ.

It is a tall and handſome Plant. The Root is brown, thick, and hung with many white Fibres.

The Stalk is upright, firm, and branched: and it is round, ſmooth, and of a ſhining brown.

The Leaves are extremely ſingular and beautiful. They are of a fine green, thick in their Subſtance, rounded in the Segments, and very ſlender; and in the whole Leaf they reſemble, in ſome Degree, a Deer's Horn.

The Flowers are, ſingly, very ſmall; but they are diſpos'd in vaſt Cluſters, in a Manner reſembling thoſe of the *umbelliferous* Plants: their Colour is a very bright and glorious yellow, and they have under them ſome dry ſhining leafy Scales, which add greatly to the Beauty as well as Singularity of their Aſpect.

The Seeds follow, and are wing'd with Down.

The Whole examined together, is found to be of the Nature of the Compoſite naked Flowers. A Number of Floſcules are collected into a common Head, ſurrounded by a ſcaly Cup; and ſeveral of theſe Heads, arrang'd together upon the Extremities of the Top-Branches of the Plant, form the general or great Tuft of Flowers, which ſtrike the Eye ſo pleaſingly in the firſt Aſpect.

Each ſmaller Cluſter or Head has its ſeveral Floſcules contain'd in a common Cup; this is roundiſh, and compos'd of numerous little Scales, of a dry Subſtance and glittering Surface, cloſely planted one by another: theſe are the ſhining leafy Subſtances the Eye firſt diſtinguiſhes under the Flowers.

Thus much being underſtood of the general Diſpoſition and Arrangement of the Heads, their ſeparate Floſcules (which tho' diſtinguiſh'd from their Minuteneſs by that peculiar Name, are are really diſtinct Flowers) are to be examined.

This will be the more familiar to the Student, as we have already explain'd to him the Structure of ſome other Flowers of the ſame Nature.

In ſome Plants of the ſame Claſs with this, we have inform'd the Student, that there are in each Head or common Flower, Floſcules of two Kinds, tubulated and ligulated: in this, as alſo in many others, they are uniform, or all alike. It is therefore a Matter of Indifference where he chuſes one of them for his Examination.

Let him ſeparate any one Floſcule; obſerve it firſt entire, and afterwards ſplit open.

While entire, he will perceive it is form'd of a ſingle Petal, and that it is tubular, and at the Edge divided into five Segments, which turn back.

Then opening it carefully length-way, by a Needle, he will perceive in it five very ſmall Filaments, with their Buttons or Antheræ coaleſcing, ſo as to form a Cylinder; and in the Midſt of theſe a ſingle Style, with its Top ſplit.

This ſhews the Claſs of the Plant. We have obſerv'd, that thoſe which have the Buttons on the Filaments thus coaleſcent, form the Nineteenth in the LINNÆAN Syſtem; the Title of which is *Syngeneſia*: and as the Flowers are all here ſimilar, and ſerve mutually to impregnate themſelves and one another, it belongs to the Subdiviſion of that Claſs, which is diſtinguiſh'd by the Term *Polygamia æqualis*.

Culture of the SAMPIRE-LEAV'D TANZY.

This ſingular Plant is a Native of *Africa*, where it is only found in the beſt and richeſt Soils.

This is to be one Rule for managing it: a Thing neglected hitherto by Gardeners; but, in Reality, the only Guide they can have for the proper Culture of any Exotic Plant.

In Autumn, let there be a Quantity of Earth cut from the Surface of a very rich Paſture, with the Turf upon it: let this be taken five Inches deep; and put of it two Barrows full in an expos'd Place. Lay upon this two Barrows of River-Mud; one Barrow of Earth from under a Wood-Pile, and one of rotten Dung, from an old Melon-Bed.

Stir all theſe together, and bury the Turf-Earth, ſo that the Graſs and its Roots may rot.

This prepares an excellent rich Soil for thoſe Exotics which require ſuch; and this Quantity will ſerve for ſeveral.

Let it be turn'd after ſome Time; and when the Turf is broken and decay'd, let this Turning be repeated frequently.

The Earth being prepar'd, the next Care is for the Seeds. They will be beſt if obtain'd from Abroad; if not, let ſuch as were ripen'd here be us'd.

They are to be ſown on a Hot-Bed, in Spring; and when the Plants are four Inches high, the beſt of them are to be remov'd into ſmall Pots of this Compoſt.

Theſe are to be ſet in a Bark-Bed, and ſhaded till they have taken Root; after which they muſt be harden'd by Degrees to the Air.

When they are grown to a good Bigneſs, they muſt be remov'd into larger Pots, taking all the Earth of the firſt with them, and only trimming round the Fibres.

In theſe they muſt be ſhelter'd a little while in the Bark-Bed; and after hardening by the Air, admitted in the hotteſt Time of the Day by raiſing the Glaſſes, they may be ſet out among the other Greenhouſe Plants; with which they muſt be taken in at the Approach of Winter.

They will flower the firſt Year; and they are never ſo beautiful; becauſe the Plant has then all its Verdure. It is at the ſame Time covered to the Bottom with its freſh green Leaves, that the golden Flowers in their enamel'd Cups adorn its Top.

After this it will flower ſtronger; but it will be more rank, and leſs handſome in its general Growth; and the Leaves will decay toward the Bottom.

This is a Reaſon why the Plant ſhould be rais'd every Year from Seeds: but at the ſame Time we adviſe the Gardener always to keep a three or four Year old Plant for Seeds, becauſe ſuch bring them to the greateſt Perfection.

CHAP. II.

The Management of the Flower Garden for the preſent Week.

NOVEMBER is a Month in which Froſt cloſes the Ground againſt the principal Labours of the Gardener; and he muſt ſubmit to it when it comes on with any Severity, for there is no warring with the Elements.

He is therefore to conſider the Buſineſs of this, and the ſucceeding Weeks, as divided into two Kinds, according to the Weather: in ſuch as is ſomewhat milder, he may work upon the Ground, and prepare and manage his more hardy Plants; and when it is more ſevere, he muſt employ himſelf in defending the tenderer Kinds, by ſheltering them with Mats, Straw, or other Covering.

In this Manner he is to conſider the Labours of the Winter Months to be divided: and in the very worſt Weather, he can be cleaning his Seeds, and preparing his Tools and Inſtruments for a better Seaſon.

As the firſt Week of *November* is generally ſomewhat mild, let him take the Advantage of employing thoſe, perhaps, laſt Days of an open Seaſon, in cleaning his Ground and finiſhing his Autumnal Plantations.

To ſhew him the Neceſſity of the firſt of theſe two Articles, we ſhall explain to him the Nature of the worſt Annoyance that is to be expected at this Seaſon: this is from the Growth of Moſs.

It will ſpread upon the Borders wherever it is over-look'd; and run up the Bottoms of the Flowering-ſhrubs planted in them, to their great Damage.

Nothing prevents this but the Deſtruction of the young Plants, before they can be ſeen; for when they are big enough to be viſible, it is very difficult to get the better of them.

This is to be done by breaking the Surface of the Borders, and now raking them a-freſh even where they appear already clean; for it is then the Shoots of Moſs are ſo weak that they will be eaſily deſtroy'd.

Let not the Gardener think hardly of this Trouble. There is a Pleaſantneſs to the Eye in new-broken Earth; and when there are no Flowers left in the Borders, this gives an Air of Culture; and is always agreeable.

There is little Danger now of any conſiderable Riſe of Weeds upon the Borders, for this Seaſon does not favour their Growth; but ſome there will occaſionally peep out, and they are thus deſtroy'd at their firſt Shoot. It is not with Moſs as with the larger Plants: this is the great Period of its Growth; for it defies Cold; and the Wet favours it.

Every old Wall is covered with it, and the Seeds now ripen in innumerable Quantities, in thoſe ſmall brown Heads which are ſupported on their ſlender Stalks; riſing, according to the Kind, from the Centre of a Tuft of Leaves, or from the Joints of the Branches.

Theſe Seeds the Wind ſcatters; and they are ſo light, and the Plants ſo univerſal, that no Spot of Ground can be at any Time ſecure from them.

Moſs is of a vaſt Variety of Kinds; but there is one Diſtinction which will ſerve all the Purpoſes of the practical Gardener. Some Kinds ſpread out in long Stalks and Branches; and others riſe in little round Tufts, which, by Degrees, encreaſe, ſpread, and unite with one another.

The generality of the branched Moſſes are of the *Hypnum* Kind, and moſt of the tufted ones are *Bryums*. Either, if neglected, will in a little Time ſpread over a large Piece of Ground; and it is now they begin to propagate.

The Seeds of both Kinds will, at this Time, be ſcattered by the Hand of Nature over the Borders: this is the Reaſon why the Ground ſhould be ſtir'd to prevent their Rooting.

The Surface of all the Ground being thus clean'd, let the Gardener conſider whether he any where wants Perennial Flowers. If he do, let him ſeize this Opportunity, almoſt the laſt that will offer of planting them.

Some of the *Campanulas* may yet be planted ſafely; and ſo may the hardier of the *Monk's-hood* Kind, and the *Pionies*; the tall *Speedwells*, which make a very pleaſing Variety in a Garden, and the *Doronicum*, the *Tangier Fumitory*, and ſome others.

When he has plac'd theſe where they are wanted, comes the Conſideration of planting Flowering-Shrubs: this may yet be done in ſome Soils, but not in others.

The Advantage of planting now, rather than in Spring, is evident; for the Shrubs will take ſome Root, and eſtabliſh themſelves in the Winter, ſo that they will be much forwarder in Spring; but there is the Danger of their being deſtroy'd by Froſt.

We have inform'd the Gardener, that Froſts affect Plants much more ſeverely where the Ground is wet, than where it is dry; therefore on this Point muſt turn the preſent Enquiry.

If the Soil be wet, let alone the planting them till Spring; but if it be dry, let that Work, by all Means, be perform'd now; for he muſt be an ill Gardener that would give up the Advantage we have nam'd, when there is no Danger.

The fitteſt Shrubs for this Plantation, are the *Syringa*, *Laburnum*, *Spiræa*, and *Jaſmine*: there may alſo be Lilacs and Honey-ſuckles, with many other of the hardier Kinds.

The Method to be follow'd is this: Let the Ground be well open'd, and the Mould carefully broke for their Reception: then the Shrubs are to be brought from the Nurſery, where they may have ſtood about two Years; if planted from Suckers.

We have already directed the taking off the Suckers of Lilacs, and other ſuch Flowering-Shrubs, in Autumn, and planting them in the Seminary. After two Years ſtanding, they become fit for the preſent Service.

The *Syringa* is a very proper one for this Time of Planting, becauſe it will well thrive in that Sort of Soil, which, from its Dryneſs, is fitteſt for the Winter Planting: but here we ſhall remind the Gardener, that when he is making his Plantation, it is as eaſy, and very near as cheap, to put in good Kinds as bad ones.

We would not baniſh the common *Syringa* from Gardens; but we are ſorry to ſee it take the Place alone. The Gardener is to know there are two others; the one with the Leaves ſtriped, edg'd, and blotted with a golden yellow; and the other with the Flowers double.

Let theſe no more baniſh the common Kind, than that exclude them; they have greater Beauty, and that a ſuperior Fragrance: therefore let them all have their Places.

Let each of theſe, when planted, have the Earth carefully laid in about the Roots, and let it be ty'd up to a firm Stake, to prevent rocking with the Wind; and this is all the Care it will need, beſide a little Watering, till Summer.

It will flower the firſt Seaſon, and afterwards remain eſtabliſh'd in the Ground.

In the ſucceeding Years, all that need be done to favour it, is to cut out the dead Wood, and ſhorten ſuch Branches as grow irregularly, in Autumn; and in Spring to ſtir and break the Earth about the Roots by good Digging. With this Care it will flower abundantly, and will continue much longer in its Beauty than by any other Management.

SECTION II.

The Buſineſs of the SEMINARY, for the firſt Week in November.

WE have before reminded the Gardener, that in general the Work of one Kind in his Ground is to be continued to another Part at the ſame Seaſon: 'Tis ſo in the preſent Caſe.

When he has remov'd his Shrubs out of the Nurſery into the Garden, he muſt ſee what farther remains to be done there under the ſame Article.

This Week he ought to finiſh the Tranſplanting in this Quarter: for the Cold will come on, and it will be better if deferr'd much longer, to let it alone till Spring.

When the firſt and ſecond Week of *November* are over, he ſhould think the next that comes for this Service is the ſecond in *February*.

Let him ſee that the Stakes are ſecure which ſupport his new-planted Trees; and ſcatter ſome Haulm of Peaſe about their Roots, and preſs it down by Stones; for this will keep the Earth at once moiſt and warm.

We have nam'd the Spring Plantation in this Quarter, to put the Gardener in Mind of preparing for it. We have told him how much Benefit the Earth gets by being expos'd to the Air and Sun; and that good Tillage is, in this Part, better than Manure.

Let the Ground that is deſtin'd for the Spring Plantation, have this Advantage to the full; for there is Time for it, and a very uſeful Seaſon. The Froſt will aſſiſt the Labour of breaking the Mould; and there is no Time of the Year in which the Air ſo much abounds with thoſe Principles, that aſſiſt Vegetation.

To take the Advantage fully, let the Ground be dug deep, and thrown up in Ridges; and once in a Month, for the whole Winter, when the Weather permits, let it be broke again, and expos'd with a new Surface.

Ignorant Writers call this ſweetning the Soil; but let our Student underſtand Things better. It is the Courſe of Nature that Plants exhauſt the Nouriſhment of the Ground: theſe ſupply Animals with Food; and the ſeveral Parts and Excrements of thoſe Animals, for this Reaſon, are found all to ſerve as Manures; enriching the Earth again; as do alſo the Stalks and Leaves of ſuch Plants as decay upon it.

This is the Round of Nature; and this explains what many have thought ſo ſtrange, that every Kind of Animal or Vegetable Subſtance, when in its Decay, ſerves as Manure.

But, beſide theſe Things, which, reſtoring to the Soil again thoſe Parts of which the Growth of Plants had robb'd it, give it a Recruit of Strength and Richneſs, the original Principles of Vegetation and Fertility are lodg'd in the Earth itſelf, and in the Air and Rains. The Earth can never be ſo exhauſted, but that theſe will refreſh, recover, and reſtore it; and they will do it, when there is Time to wait their Operation, in a gentle and more perfect Manner than all Manures.

On this Principle depends the Uſe of Fallowing; and thus ſhould the Ground, in the Seminary, be improv'd: for all Manures are hurtful in this Place.

Let the Earth, thus exhauſted by the Growth of Trees, be turn'd up to the Froſts and Fogs, Dews and Rains, the Sun and Winds, and they will fertilize it.

Let frequent Turnings ſerve to expoſe it to theſe Advantages every Month, or oftener, with a new Surface; and as theſe Turnings will, at the ſame Time, encreaſe the Fertility of the Mould, and prevent the Growth of thoſe Weeds, which would exhauſt it, there will be every Advantage given it for the Support of the ſucceeding Plantation.

SECTION III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

Products of the Fruit-Garden yet in Seaſon.

WE have warn'd the Reader, that this Article will every Week decline; let him not therefore impute to us that Scantineſs of the Account, which is owing to Nature.

Winter is no Time for Fruits ripening; our beſt Seaſon, in this Country, ſcarce ſerves for the better Kinds; and all we can expect now, that Nature yields us little, is the Reſource of Art to propagate and ripen them by an unnatural Heat; or to offer us what ſhe has preſerv'd.

The Nut-Kind which we mentioned laſt, continue in being, tho' with leſs Perfection.

The Service and Medlar are as good as ever, if well kept; and there are Apples and Pears yet of various Kinds.

The Pine-Apple continues, from our Stoves; and Grapes, under a proper Preſervation.

The Method we have mention'd of tying them up, will keep many Kinds good yet: but we ſhall here add a Practice, which Experience has ſhewn

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in repeated Inſtances, will preſerve them throughout a conſiderable Part of the Winter; and keep them with their natural Flavour.

Grapes are not of the Nature of thoſe Fruits that ſpoil upon the Branches with over Ripeneſs. Our Seaſons do not favour them ſo much: but the Danger they are expoſed to moſt, is that of Froſts.

Cold takes an Effect upon their Juices, that prevents their keeping.

Upon theſe two Principles, that Grapes will ſeldom ſuffer by over Ripeneſs; and that they are in great Danger from Froſts, depends the Article of gathering them properly, which is the firſt Step toward their Preſervation.

The Ripeneſs of Grapes is known by their Tranſparence on the Bunch, as well as by their Softneſs and mellow Flavour in the Mouth.

They ſhould be gathered when ripe; therefore if it happen in any favourable Seaſon, that the later Kinds ripen thoroughly before the Froſts, they muſt be cut for preſerving when ſo ripened.

The late Grapes are the proper Kinds for preſerving. As ſoon as the Froſts come on, the others intended for the ſame Uſe muſt alſo be gathered; and the following Preparation made for them.

Get two or three ſound wooden Boxes of a Foot deep, and about the ſame Breadth. Let the Length be according to the Quantity of Grapes intended to be preſerved in them.

Sift very fine a good Quantity of Wood-Aſhes that have been well burnt; thoſe from a Baker's I have always found anſwer beſt.

Let both the Boxes and the Aſhes be perfectly dry, but not hot; and then ſpread over the Bottom of each Box ſome of the Aſhes, to cover it four Inches deep.

This being done go out, and in the Middle of a dry Day gather ſome of the beſt of the Bunches of Grapes. Examine them, and pick off the geeen Berries; and any that are eaten by Inſects, or decayed: then lay the Bunches Side by Side upon the Bed of Aſhes in the Box. Lay the Length of the Bunch the croſs Way of the Box.

As ſoon as the Bed is covered with them ſift on more of the Aſhes, and let them run in between Berry and Berry upon every Bunch, where they ſtand ſeparate. When the whole are thus inter-laid, ſift over them more of the Aſhes till the Box is full. Then ſet it in a dry Place, but out of the Reach of any Heat from the Fire.

In this Manner let the ſeveral Boxes be filled; and I have thus eaten Grapes very good in the Month of *February*.

The Quinces and Medlars will now require to be cleared from the Trees, and a proper Method is to be conſidered to preſerve them. Theſe are not Fruits that keep well for a long Time, but they may be preſerved, and even improved for ſome Weeks by a proper Management.

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Quinces as ſoon as gathered muſt be carefully looked over: if any are decayed in Part, theſe muſt be ſeparated; and if there be any very unripe, they muſt be thrown away.

The fine Fruit cleared from them muſt be piled up in a Heap, and covered with a double woollen Cloth.

When theſe have ſweated a little while, they muſt be wiped one by one, and laid on Shelves at a Diſtance from each other.

Medlars, when all are gathered for the laſt Time from the Trees, muſt be mellowed by other Means.

Hitherto the Table, we ſuppoſe, has been ſupplied by the beſt and ripeſt freſh gathered for that Purpoſe; but of the Remainder now pulled, the greateſt Part will be auſtere and hard.

Prepare for theſe a Bed of wet Bran in the following Manner.

Cover a broad Shelf with Bran two Inches deep, and ſprinkle over it warm River Water till it is thoroughly moiſtened, but not made into a Paſte. Upon this lay the Medlars, one by one, placing the Bottom downwards, and letting them not touch one another.

When the Shelf is covered, ſtrew over them ſome more fine Bran, dry, and perfectly free from Lumps.

This ſhould fall between them every where to fill up Crevices; and when they are thus brought level to the Top, as much more is to be ſifted on as will cover them two Inches deep. Sprinkle on this ſome more warm Water, and make it damp; but not ſo much as the former.

Thus let them lie a Week before they are touched. The Bran and the Water will ferment, and this will bring on a gentle Heat, which will ſerve in the Place of the Sun-Beams, at a Time when they have no longer Power. The Fruit will mellow thus better than on the Tree; and I have found them always milder taſted, ſofter throughout, and freer from Rottenneſs.

Though there will be ſome of them fit for eating in ſeven Days, the Generality will not be in order till about a Fortnight; and many will continue good after this three or four Weeks.

Some who uſe this Method of ripening Medlars, pile up many Layers of them in a Box, with Bran between; but I have not found that anſwer. They grow rotten inſtead of mellowing, and the greateſt Part of them are never eatable.

At the ſame Time that a Part of the Medlars are thus haſtened to ripen in the Bran, let ſome more of them be laid upon a Floor covered with dry clean Straw.

Let theſe be kept ſeparate from one another, and ſome more Straw thrown over them.

They will come to Maturity more gradually than the others, and will be fit for Table when they are paſt their Goodneſs.

CHAP. II.

The Management of Fruit-Trees for the preſent Week.

THE Work of pruning now ſhould be continued with good Care and Aſſiduity. We have directed at large the pruning of the Peach-Tree in our laſt Number; and that is in general a Guidance for other Stone-Fruit.

The laſt of the Grapes having been now gathered, the Vines ſhould be pruned. This anſwers a double Purpoſe: it removes at once the great Quantity of their Leaves and uſeleſs Parts; and being done thus early, the Fruit will have its full Perfection the ſucceeding Seaſon.

Vines rarely produce any bearing Shoots from Wood that is above one Year old.

For this Reaſon the laſt Year's Wood ſhould be preſerved in every Part where poſſible, and the old cut out.

The bearing Shoots ſhould be left four Eyes long; and cut juſt above an Eye, ſloping backwards from it.

In the pruning of Apricots Regard muſt be had to the Strength of the Tree, and of the ſeveral Branches. A ſtrong Branch may be left nine Inches long; but a weak one ſhould not be more than five.

The Branches ſhould be un-nailed in order for pruning; and when that is done they muſt be nailed again, laying them as horizontally as poſſible; for that Poſture beſt promotes their bearing.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Of the Products of the Kitchen-Garden, and Care of the Ground.

WE have nothing to add to the Liſt given in the preceding Weeks of Kitchen-Garden Products; nor is it a great deal that can now be done to the Ground. We therefore compriſe this Article in a ſingle Chapter; and make that a ſhort one to give Compaſs to thoſe Article under which more required.

The Cauliflower Plants which we directed to be preſerved from Froſt by Glaſſes, muſt not be buried from the Air.

When there are fine warm and ſerene Days, as ſuch may come at this Seaſon, let the Glaſſes be ſet off from eleven o'Clock to four; and when it is more ſevere, let them ſtill, tho' not taken off, be raiſed a little at the Sides, to admit free Air when it is warmeſt in the bright Time of the Day.

Lettuces that are preſerved under Glaſſes in the ſame Manner, ſhould have the ſame Treatment and Advantages; and this will promote, not injure the Growth of that young Salletting we directed to be ſowed round the Edges.

If the Froſts come on, ſcatter a little long, dry Straw over the Beds of young Radiſhes; this will mellow the Ground, and preſerve the Plants.

In the open Ground there will be Cauliflowers now coming to ripening. Theſe muſt be defended from Wet and Cold, by breaking in the inner Leaves ſo as to cover them.

Laſtly, for the Buſineſs of this Week let the Gardener remember what we have directed in the Nurſery: a great deal of the Kitchen-Ground will require to be ſown in Spring, and as this is vacant for the Winter, let the ſame Care be taken of it.

Let the whole intended for this Purpoſe be well dug, and moderately dunged; for in this Part of the Ground there ſhould be the joint Aſſiſtance of Tillage and Manure.

Let it be expoſed in Ridges laid eaſt and weſt, and once in a Month let theſe be broken and thrown up again with a new Surface. The ſtrong Vapour of the Manure will thus be thrown off, and the Ground enriched to the utmoſt it is capable.

EDEN:

A

Compleat Body of Gardening.

NUMBER XI.

For the Second Week in *NOVEMBER.*

SECTION I.

FLORA, *or the* Pleasure-Garden.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. Short thick-leav'd ALOE.

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Pl. XI. Fig. 1.

THE Aloe we laſt recommended to the Attention of our Reader, was diſtinguiſhed by its noble Aſpect and numerous Flowers. This claims an equal Regard, but from another Source; its elegant Simplicity.

Commeline calls it, *Aloe Africana breviſſimo craſſiſſimoque folio flore viridi.* Others, *Aloe foliis rhomboidalibus*; and *Aloe retuſa.* Linnæus, more accurate than all in his ſpecifick Names, *Aloe floribus ſeſſilibus triquetris bilabiatis labio inferiore revoluto:* Aloe with ſeſſile and three ſquare Flowers formed into two Lips, the under one turning back.

It is a ſmaller Plant than moſt of the Aloe Kind; but never fails to attract the Eye, even of thoſe unaccuſtomed to ſuch Objects, when placed among the moſt rich and glaring.

The Root is compoſed of numerous brown Fibres.

The Leaves ſpring in a Cluſter from its Head, and raiſe themſelves partly upright. They are ſhort, extremely thick, ſharp pointed, and turning down with a large thick End, appear there triangular.

Their Colour is a very fine green, ſtriped in a regular and elegant Manner with white, and they are frequently tip'd with a beautiful red at the Point.

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This Variety of Colour added to the Singularity in Form of the Leaves, renders the Plant very pleaſing when no more appears; but its Flowers, when the Seaſon and right Culture call them forth, anſwer to them very well in Beauty.

The Stalk which ſupports theſe riſes in the Centre of the Leaves, and is eight Inches high, round, ſmooth, and in Colour purpliſh.

The Flowers are neither numerous nor ſpecious; but they appear ſometimes prettily vein'd, and at others elegantly ſimple.

When the Culture has been leaſt judicious, if the Plant happens to ſhew its Flowers, they are of a faint green.

This explains Commeline's Name: That Author had never brought it to flower under his own Care, tho' long poſſeſſed of it in Root and Leaves. He found an Account of the Flowers among the Papers of Mynheer Witsen, with whom it had produced them weakly, and conſequently they were deſcribed green.

In better Culture they often appear elegantly ſtriped with green and white; and where the Plant ſucceeds beſt they are perfectly white. Thus Tilli produced them at *Piſa*; and thus we ſhall inſtruct the Gardener to bring them forwards in *England*.

They are ſmall, and they crown the Top of the Stalk raiſed to ſupport them in a looſe irregular Spike. Sometimes they grow cloſe to the Stalk, as LINNÆUS expreſſes them; ſometimes each has its ſeparate ſlender Pedicle: Theſe are uſually very ſhort, but ſometimes a little longer; and they are always of the Colour of that Part of the Stalk from whence they riſe.

The Flower, examined with a curious Eye, is found to be tubular toward the Baſe, and expanded at the Mouth: it is marked obſcurely with three Ridges in the tubular Part, and divided in an irregular Manner at the Opening into two Lips: the lower one of theſe always rolls back; and uſually all the Segments do more or leſs the ſame.

The Flower has no Cup, but adheres naked to the Stalk; and within ſtand ſix Filaments, each crowned with an oblong Button; with a ſingle Style in their Centre, terminated by a three parted Top, or Stigma.

When the Filaments are traced to their Bottoms, they will be found inſerted on the Receptacle. This is a Singularity in a Flower formed of one Petal, and abundantly diſtinguiſhes the Aloe Kind from all others.

The Claſs and Place in the LINNÆAN Syſtem are ſeen ſo obviouſly in this Flower we need but name them. The ſixth Claſs in the Method of that Author comprehends thoſe Plants which have ſix regular Filaments in the Flower; and this is one of them.

Its ſingle Style determines it alſo to the firſt Section of that Claſs, and the Student wants not our Aſſiſtance in determining it to be one of the Hexandria Monogynia.

It is ſingular in this Aloe that it has not the bitter reſinous Juice with which the Leaves of moſt others abound. When a Leaf is cut what runs from it is watery, colourleſs, and perfectly inſipid.

Culture of the THICK-LEAV'D ALOE.

We have obſerved this Species often loſes half its Beauty by an injudicious Management.

We ſee in the Article of its Juice, how much it differs from the common Aloes; and every Thing we know concerning it declares the ſame Singularity: yet the Gardener, becauſe it is an Aloe ſuppoſes it muſt be uſed like the Reſt; and gives it the ſame Culture.

What this is all may know; for there is but one Source whence it is taken; the Gardeners Dictionary; compiled as the *Title* ſays, (notwithſtanding all its *Greek*) by Mr. PHILIP MILLER. The Authors from whom that Work is principally collected, knew little of the Culture of Exotics; therefore what could be compiled from them, though vouched by the Teſtimony of 'em all (for all copied one another) muſt have been very deficient; and what is added little aſſiſts in the Inſtruction.

The Soil in which the Aloes thrive beſt, that Book informs the Reader, is two fourths light Earth; and Sand, and Lime Rubbiſh, of each one fourth.

This is directed equally for all the Aloes; and this the Gardeners therefore ſuppoſe that Reaſon and Experience declare the beſt and fitteſt for the Plant there deſcribed.

We ſhall convince them that both declare otherwiſe.

The Plant, tho' a Species of the Aloe, is ſingular in its Nature, Qualities, and original Soil; and what favours the others will ſtarve it.

Moſt of the Aloe Kind live naturally in a looſe, dry Earth; but this on the contrary is never found wild in its native Climate, but on Clay.

This all who know the Plant declare *.

This is the proper Direction for its Soil with us; for it will be in vain we mimick the Heat of its Climate, if we ignorantly commit it to an improper Mould.

This is the true Foundation for the Culture of Plants; and we muſt, for the publick Utility, remind the Proprietors of the Work juſt nam'd, who are now giving a new Edition, that it would have become their Author, whoſoever he is, in this Inſtance, to have kept his Promiſe of treating thoſe Species diſtinctly, which require a particular Culture; and that we hope he will regard it better in ſucceeding Articles.

After this unwilling but neceſſary Cenſure on a Work intended to be uſeful, we ſhall be underſtood not to direct a different Management of this Plant from Inexperience and Error (becauſe it contradicts what is there given) but from the Dictates of Reaſon and Authority of Trial.

To imitate the natural Soil, let the Gardener ſeek for a firm loamy Earth under the Turf, in ſome Paſture which lies on the Deſcent of a Hill. He will uſually find it of a yellowiſh brown Colour, and covered with an Inch or two of Mould.

Let him pare off the Turf, and this light Covering which has ariſen from the rotted Leaves of Graſs, and the Dung uſed as Manure.

Let him take Home a Barrow full of the clean Loam, and mix with it a Quarter of a Pound of Salt and a Peck of ſtiff Marle.

Let theſe be put together early in Spring, and they will be ready for Uſe by Midſummer.

The Marle will have ſufficiently opened the Body of the Loam by this Time, and the Seaſon will be come for propagating the Plant.

This is very eaſy, for the Aloe is ſo full of Life that every Leaf will grow.

Let therefore half a dozen of the freſheſt and fineſt of the Leaves be taken from the lower Part of ſome flouriſhing Plant. Let theſe be laid on a Shelf in any Room three Days, and they will be then fit to ſet.

Fill as many middle-ſized Pots with the Compoſt. Set one Leaf in each, with the Part where it adhered to the old Plant downwards, and cover it up half the Heighth with the Mould.

Give it a very gentle Watering.

Set the Pots in a Bark Bed of a moderate Heat, and ſhade them from the Sun.

Every other Evening give them a gentle Water, and in the Middle of the Day admit ſome Air by raiſing the Glaſſes.

Thus they will root; and in this Manner they will be raiſed, like Cuttings of other Plants, to their Perfection.

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* *Habi*[illegible] *in Africæ Argilloſis.* L. Sp. pl. 322.

The Care and Mangement of them after this, muſt be exactly the ſame as that of the other *African* Aloe already directed, only that they muſt have oftener Water; and that the Gardener muſt carefully watch the Time of their firſt Shoot for flowering.

When this appears, they muſt be water'd twice a Day, a very little at a Time; and have more Warmth than before.

This Management will bring on the flowering Stalks; and whether the Flowers be perfectly White, or ſlightly ſtriped with Green, they will be very beautiful.

It will flower annually thus, and there will never be more Greenneſs in the Flower, than one, or at the moſt two delicate Streaks of it on each Diviſion.

2. LONG FRUITED TRICHOSANTHES.

Pl. XI. Fig. 2.

This is a Plant which Singularity and Beauty equally recommend to the Attention of the curious; which is eaſily raiſed; and which is yet uncommon in our Collections. We hope to render it an Ornament to them all.

It has been referred by ſome to the Claſs of Gourds; and others have diſtinguiſhed it by the Name *Anguina*.

Linnæus places it under a ſeparate Head. From the hairy Filaments, which fringe the Edges of the Flower, he calls it Trichoſanthes; and for the Diſtinction of the Species adds, *pomis teretibus oblongis incurvis.* Trichoſanthes with long, rounded and crooked Fruit.

The firſt Knowledge *Europe* had of this Plant, ſhe owed to *Michael Angelo Tilli*; that experienced Cultivater of Exotics, received the Seeds from the celebrated *Bonaroti*, into whoſe Hands they came from *China*.

Tilli committed them to a rich Soil, under ſuch Advantages of Warmth, as he had found raiſe others from that Climate, and he was ſurprized to ſee a Plant ſpring from them, not only unknown in *Europe*, but unlike all that had ever been ſeen there.

Various Stalks ſpread every where upon the Ground from a fibrous Root.

On theſe appeared Leaves of an elegant Form, not unlike thoſe of the Vine, broad and divided deeply; and rudely indented on the Edges of thoſe larger Segments; fixed on long foot Stalks; and of a ſhining Green.

The Flowers roſe from the ſame Joints with the Leaves, ſupported on extremely long and ſlender Pedicles, one Flower on each.

This in the Bud ſeemed cloſed inexplicably, by innumerable branched Hairs; but the Noon Sun of a favourable Day opening it, it ſpread to the full Extent; large, white as Snow, and fringed with theſe fine Fibres.

The Fruit ſucceeded extremely long, ſlender, and often, but not always crooked. In Colour, at firſt Green variegated with White, and ſpotted with a duſky Purple; but afterwards Purpliſh, and then Yellowiſh entirely.

Thus it has gradually diſplayed its ſeveral Beauties alſo under an *Engliſh* Culture, and when overſpread with Flowers, and loaded with young Fruit, it makes an Appearance elegant in the higheſt Degree, and ſingular.

The Flower ſubmitted to the Eye of Science, is found to be placed in a long and ſlender Cup, tubular from the Stalk, and opening at the Rim into five Segments. One Petal forms the Body of the Flower; and this is divided alſo deeply into five oval pointed Segments, edged with innumerable long and branched Hairs. Thus far all the Flowers upon the Plant are alike: but it may chance that in this firſt picked for Obſervation, the Student may perceive three Filaments moſt ſingularly covered with a creeping Line of the Farina or impregnating Duſt; and three uſeleſs little Styles riſing from the tubular Part of the Cup.

This may be what he finds, for it may be a Male-Flower he had opened: But if it be a Female, he will perceive nothing more than the Rudiment of the ſucceeding Fruit with its proper Appendages for receiving and conveying down the Duſt. He will find under the Receptacle, a long and ſlender Rudiment of the Fruit; and from this a ſingle Style riſing, terminated by three gaping oblong Stigmata.

If it ſhould happen that he opened one of theſe Flowers, he would ſee at once the Deficience of the Male Parts. Theſe he would therefore ſeek in ſome other.

This Search would ſoon diſcover to him, that the Trichoſanthes was one of thoſe Plants which have ſeperate Male and Female Flowers upon the ſame Plant. Theſe conſtitute a Claſs, the twenty-firſt in the Linnæan Syſtem, its Name Monœcia, and to this therefore the Plant belongs. There are of this Claſs, ſome whoſe Male Parts growing together, as in the Syngeneſia, form a ſeparate Section under that general Head. In this he will obſerve that the three Filaments which are very ſhort, are placed at the Summit of the Cup; and he will find the Anthera, a Cylindric Body covered with the farinaceous Line. This ſhews the Trichoſanthes one of the Section juſt named, and he will declare it one of the Monœcia Syngeneſia of Linnæus. No Seeds follow the Male Flowers, but after the Female there comes the Fruit deſcribed before, which ſlowly advances to its Maturity; and as it ripens changes from Day to Day its Colour: but it is handſomeſt while young.

Nov.

Culture of the TRICHOSANTHES.

In *China* this is a very common Plant near Woods, and where there is a deep and mellow Soil. This we muſt give it here, and with this, ſuiting the Degree of Warmth and Moiſture, we ſhall not fail of raiſing it to full Perfection. To imitate its natural Soil, let the following Compoſt be made: Pare off the Turf with three Inches of the upper Mould from a rich Piece of Paſture, and then dig away two Barrows of the Soil underneath, cutting it one Spade depth.

A rich Paſture being choſen for the Spot, this is a freſh and unexhauſted Earth, for the Roots of the Graſs have ſcarce penetrated to it. With this mix a Barrow of the Dung from an old Melon-bed, and the ſame Quantity of Earth from under a Wood-pile. Lay theſe together in Autumn, and let them lie all Winter, frequently turning the Heap.

Early in Spring fill two or three large Pots with this Earth broke fine, and lay on the Surface in each Pot, half a dozen of the Seeds. Sift over them a Quarter of an Inch Thickneſs of the ſame Mould, and give them a little Water.

Set the Pots up to the Rim in a Bark Bed, and ſhade them from the Sun.

When the Plants appear, water them gently every Night, and give them Air in the middle of the Day. Obſerve the ſtrongeſt Plant that grows near the middle of the Pot, and mark that for remaining.

The reſt at Times take up, and either deſtroy or plant them in other Pots; but they will never be like the original unremoved ones.

As theſe encreaſe in Size they muſt be more watered, and have more Air; and after they have acquired as much Strength as can be given them in the Bed; they muſt be ſet out in the middle of a hot Day, and refreſhed at Times with Water. Thus they may ſtand among the Exoticks, ſo long as the Weather is perfectly warm and fine; but as they cannot bear Cold, they muſt early be taken into Shelter. They will come into Flower in the End of Summer; and the Fruit will appear in Autumn, and continue with freſh Flowers in other Parts for ſeveral Months.

One or more of the Fruits muſt be ſuffered to ripen for Seed, for the Root periſhes when they are come to their Maturity; and it will riſe very well from Seeds ripen'd here.

3. GREAT SNAP-DRAGON.

Pl. XI. Fig. 3.

We treat here of a Plant, which though not a Native of our Country, bears the free Air perfectly well in it; and ſows itſelf freely like a wild Weed. Its Beauty when well managed is greater than they are aware, who have only ſeen it in the Hands of common Gardeners; and its long Continuance in Flower, under a juſt Management, add to its Recommendations.

Our Gardeners are well enough acquainted with the Plant, they call it Snap-Dragon and Calf's-Snout. The common Writers call it *Antirhinum majus*; and LINNÆUS, *Antirhinum Corollis ecaudatis Calycibus rotundatis.* Snap-Dragon with Flowers without Spurs in rounded Cups. The having no Spur to the Flower, diſtinguiſhes it from the *Linaria* kind; which this Author ranges in the ſame Genus with the *Antirhinum*; and the rounded Form of the Cup; from the other kind, whoſe Cup is longer than the Flower.

The Root is long, thick, and hung with many Fibres.

The Stalks riſe from it in a great Cluſter, ten, twelve, or more together when well managed, and they are two Feet high.

The Leaves on theſe are long and ſlender, undivided, and of a ſhining Green.

The Flowers are large, and they are conſpicuous from their ſtanding in long Spikes; they are long, hollow and cloſe at the Mouth, and are naturally of a fine Red; ſometimes they will be deeper, ſometimes paler, and in ſome Plants of a perfect White.

They will alſo take Tinges of other Colours, and will be ſtriped and variegated from good Culture; in theſe Caſes the Number and Variety of the Flowers greatly recommend them, and with the Culture we ſhall propoſe, they are worthy of a Place in any Garden.

The Flower examined with a Botanical Attention, appears form'd of a ſingle Petal, and of the labiated Structure. The ſhort Cup in which it ſtands, is divided into five Segments, of which the two loweſt gape more than the others.

The tubular Part of the Flower, is long, thick, and uneven; and the two Lips are united by a tranſverſe Piece, which cloſes the Mouth of the Flower. This is called the *Palate*; both Lips are divided at the Edges, and the Palate is convex, and ſtands prominent between them. At the Baſe of the Flower, is a Nectarium, which is ſhort, rounded, and ſcarce prominent. In the center of the Flower, when laid open, appear four Filaments. Theſe are nearly of the Length of the Flower; and they are placed under the upper Lip, and terminated by their Buttons. On examining them attentively, they will be found of unequal Length, two exceeding the others.

The Style riſes ſingle among theſe, and the Seed Veſſel is rounded, and opens obliquely at Top when ripe.

Nov. ☞The Difference in Length between two of the Filaments, and the others, is an Obſervation of Importance, for on that depends the Claſs of the Plant.

We have already told our Student, where two of theſe are longer than the others; the Claſs is that of *Didynamia*, thence named: and this having a Capſule for the Seeds, is one of that Section under this Claſs, diſtinguiſhed, from the Capſule, by the Term *Angioſpermia*.

Culture of the SNAP-DRAGON.

The Gardener will ſmile to hear us ſpeak of inſtructing him in the Culture of a Plant, that will live on an old Wall, and propagate itſelf from Year to Year without his Care: But we are about to tell him, how he ſhall make it exceed in Luſtre, not only what he thus ſees wild, but all that his Fellow Gardeners raiſe by their beſt Culture.

It is to be done thus. In the Month of *November* let him make this Compoſt; two Barrows of Earth from a rich Paſture, one of Marle, and one and a half of River-Mud; to theſe, when he has ſtirred them well together, he is to add a Buſhel of Hog's Dung, and a Buſhel and half of Cow Dung.

Theſe let him work well together, and lay them in a Ridge, ſtirring them once a Month till Spring.

Let him gather ſome of the Seed from a tall and thriving Plant, which has grown in its own wild Way upon a Wall, and lay it carefully in the Pods till *Chriſtmas*: it will thus gradually dry and harden.

Then let him carefully ſhake it out upon ſome Sheets of Cartridge Paper, and leave it expoſed to the dry Air till wanted.

This compleats the drying and hardening, which in all Flower Seeds is an eſſential Article.

Early in Spring, let the whole Compoſt be laid in ſome Part of a warm Border, open to the Sun, but ſheltered from the Winds; and let the Earth of the Border be taken out, a Spade and half deep, to give it Room.

Lay the Surface level, ſcatter over it the Seeds thinly: And ſift upon them a quarter of an Inch of the ſame Compoſt.

Throw ſome Furze Buſhes upon the Bed, and on theſe lay a-piece of Matting.

Nov. Let this be ſupported a Foot and a half above the Level of the Bed, and every Day at Noon raiſed at the Edges, unleſs the Weather be very bad, or the Winds ſharp and cold.

The Plants will thus come up, and the Furzes muſt then be removed: where they riſe very thick, they muſt be thinned by pulling up a few, leaving the ſtrongeſt.

This always ſhould be done in the middle of a fine Day, at the ſame Time that the Furzes are taken away; and there muſt then be put ſome Hoops, but not too high, to ſupport the Mat that covers the Plants: Thus they will get more Air; and yet be defended from the Cold.

This Care is to be continued till the Weather becomes warmer.

The Plants will by that Time have got a conſiderable Height, and they muſt be marked for Standing or Removal.

Firſt let a couple of large Pots be brought: let ſome of the Compoſt be taken from the Outſide, and put in them; then let two of the ſtouteſt Plants be raiſed with a great Quantity of the Soil, and ſet upright, one in each Pot, filling it up with more.

Let theſe have a gentle Watering; and ſet them in the Places where the Plants grew, to be ſhaded till they have Root.

Two being taken for this Purpoſe; obſerve where the beſt of the others grow; ſet a Stick by way of Mark, at each of theſe, leaving as many as can ſtand at a fair Diſtance on the Bed. Take up all the reſt carefully, and plant them out in other Parts of the Garden.

Theſe are to take their Chance, and they will be little better than the common ones.

When thoſe in the Pots have taken good Root, let them be ſet among the Exotics in the open Air; and let theſe, and thoſe in the Bed, be water'd, as Occaſion requires, in common with the other Plants: no otherwiſe.

In Autumn they will flower: thoſe in the Bed of Compoſt will be faireſt and fulleſt of Bloom. Thoſe in the Pots are intended to be hous'd late in Autumn with the Exotics, for the Sake of continuing the longer in flower. I have thus kept them blowing all the fore Part of the Winter.

Thoſe who think this Care more than the Snap-Dragon deſerves, have not ſeen it fairly. When rais'd by this Care, it exceeds many of the moſt pompous Flowers.

4. AMERICAN EUONYMUS.

Pl. XI. Fig. 4. The Reader will be, perhaps, ſurpriz'd to hear, we mean by this Name what he has been us'd to call *Virginian Myrtle Sumach*. By ſuch wretched, ignorant, and improper Names, have the Gardeners been taught to know their Plants; by thoſe who on the Knowledge they can glean from PARKINSON or GERARD, ſet themſelves up as Oracles to their Brethren.

The Name is old in *England*; for COMMELINE makes his Acknowledgments to the Biſhop of *London* of that Time, HENRY COMPTON, from whom the *Amſterdam* Garden receiv'd it; with the Name of *Virginian Myrtle Sumach*: but however early were the Error, there have been ſince Means ſufficient to aboliſh it; tho' the Term is ſtill continued.

Commeline, juſt nam'd, alone retains the Name of *Rhus* to it, adding *Virginianum foliis Myrti* [1]; but this he did not from an Error in his Judgment, ſuppoſing it a Species of *Rhus*, or *Sumach*, but in Complaiſance to the *Donor*; *Botanicorum*, as he calls him *Dux & Princeps*.

Plukenet had given it its right Name, *Euonymus* [2].

Linnæus, in his earlier Writings, call'd it a *Celaſtrus* [3]: but, in his later [4], he has refer'd it to the true Claſs; and in this Gronovius follows him [5]. This Generical Name admitted an eaſy Diſtinction for a ſpecific one: he adds to this Purpoſe, *floribus omnibus quinquefidis: Euonymus*, with all the Flowers divided into five Parts: this evidently diſtinguiſhing it from the *European* Kind; the Diviſions of whoſe Flowers are for the moſt Part four.

There is alſo this farther Reaſon againſt continuing to it the Name *Rhus Myrtifolia*, that it is given to two other Plants; the one a *Myrica* [6], and the other a *Coriaria* [7]. We have annexed the References in the Margin, to clear this intricate Point of Confuſion.

It is not one of the moſt ſpecious Shrubs we take into our Gardens; but they muſt have cold Imaginations who talk of it as wholly wanting Beauty. The Flowers have no Claim to Attention; but the Leaves are very pretty both in Form and Arrangement. They never fail to attract the Eye among even the fineſt Kinds; and 'tis the more valuable, as that it lives thro' our Winters.

The Root is fibrous.

The Stem is woody, but not ſtrong, and is covered with an Olive-colour'd Bark, when the Plant has full Health. From this ſpread Branches wildly and irregularly, whoſe young Twigs are greener.

The Leaves reſemble thoſe of the *Italian* Myrtle, and they are diſpos'd with a beautiful Regularity.

Their Colour alſo is a Recommendation; for it is a very bright and lively green.

The Flowers are plac'd ſingly, or in Pairs, on ſhort Pedicles, riſing from the Boſoms of the Leaves. They are ſmall, and of a yellowiſh green Colour, ting'd with a faint Purple in ſome Places on the upper Side, and more on the lower; and after theſe comes a ſmall ſquare rough Fruit.

The Flower, examined by the Eye of Science, is ſeen plac'd in a ſmall Cup, cut into five ſmall hollow Segments; and its Body is form'd of five ſmall oval Petals. In the Centre are plac'd five ſmall Filaments; and in the Midſt of them a ſingle Style.

The Claſs to which the Plant belongs, is eaſily known from this: it is the *Pentandria*, the Fifth in the Linnæan Syſtem; and the ſingle Style ſhews it to be one of the *Monogynia*, thoſe of the firſt Section.

Culture of the AMERICAN EUONYMUS.

The beſt Way of raiſing this Shrub is from Seed; but that ſhould be had from its native Country, *Virginia*. When this cannot be obtain'd, 'tis better to lay ſome Branches, than to truſt to Seeds ripen'd here, for that is often done imperfectly.

To this Purpoſe, let the Earth be open'd round about a Shrub of this Kind, and ſeveral Branches be brought down to it by bending.

Let the Place be mark'd where they touch the Earth, and ſeveral Slits be made quite thro' them with a ſharp Penknife: juſt above the Place twiſt a Wire moderately tight; and then cut off the Branch ten Inches above the Place where it is ſlit.

This done, prepare ſome Pegs, and lay the Branches, one by one, in the Ground, three Inches deep. Peg them down: water them at Times, and they will ſucceed very happily.

In one Seaſon they will have ſhot good Roots; and they may then be cut from the Mother Plant and ſet as new Shrubs.

There are ſome who pot this Shrub, and beſtow more Care upon it: but it ſucceeds thus very well.

5. STRIPED AMARYLLIS.

Pl. XI. Fig. 5. We have laid before the Reader already one elegant Species of *Amaryllis*; this deſerves very well a Place with it; and tho' leſs glorious in the Colour, makes amends by a moſt pleaſing and regular Variegation. It is alſo, in its Kind, an extremely ſtately Plant.

'Tis but of late we are acquainted with a proper Aſſortment and Diſtribution of the Bulbous Flowers; and, till this was done, the proper and diſtinctive Names could not be aſſign'd to them.

This was call'd a *Lillio-narciſſus*. So Commeline and others entitled it, in common with more Plants of different Kinds, from a ſuppos'd Reſemblance in Part with the Daffodil, and partly with the Lilly.

Linnæus eſtabliſh'd the Diſtinctions of the Genera, and call'd this *Amaryllis*; adding, as its Diſtinction from the other Species, *ſpatha multiflora corollis campanulatis æqualibus, ſcapo tereti ancipite: Amaryllis*, with a roundiſh two-edg'd Stalk, and with numerous equal campanulated Flowers from the ſame Scabbard.

Van Royen calls it by the ſame Name, and it would not be eaſy to frame another equally expreſſive.

The Root is an oblong Bulb, of a white Colour; and from its Bottom ſends out a Multitude of white and downy Fibres.

The Leaves are large, and of a fine green; they are very long, moderately broad, and hollow'd from the Centre.

The Stalk riſes not in the Midſt of this Tuft of Leaves, but at their Side; and it is roundiſh, but double-edg'd, firm, upright, juicy; and in Colour purpliſh.

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[1] *Hort. Amſt.* v. 1. p. 157.

[2] *Pluk. Alm.* 139. t. 115. f. 5.

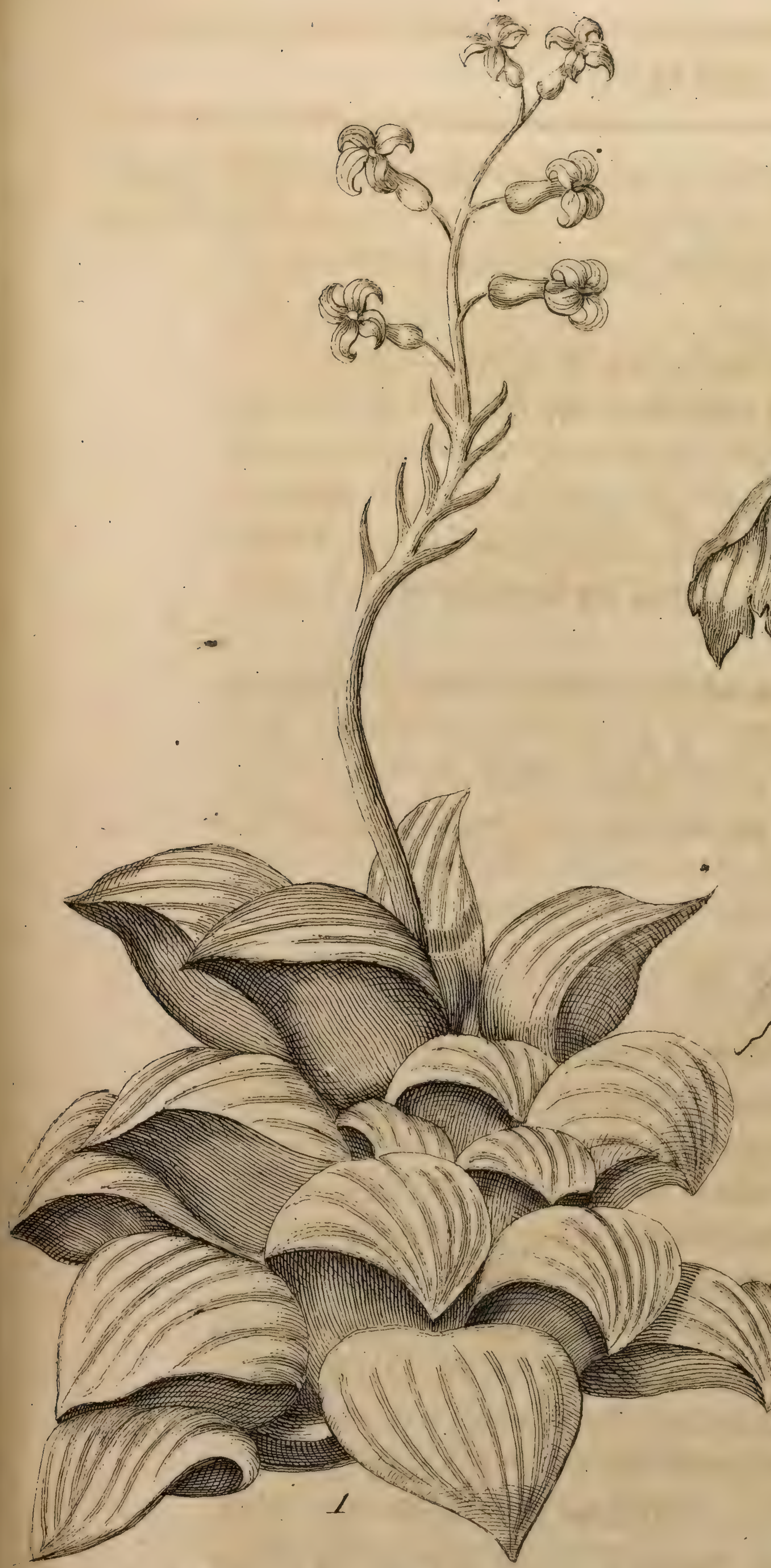
[3] *Celaſtrus foliis oppoſitis ovatis integerrimis floribus ſubſolitariis.* Hort. Cliff. 32.

[4] *Hort. Upſal.* 30.

[5] *Gr. Virgin.* 17.

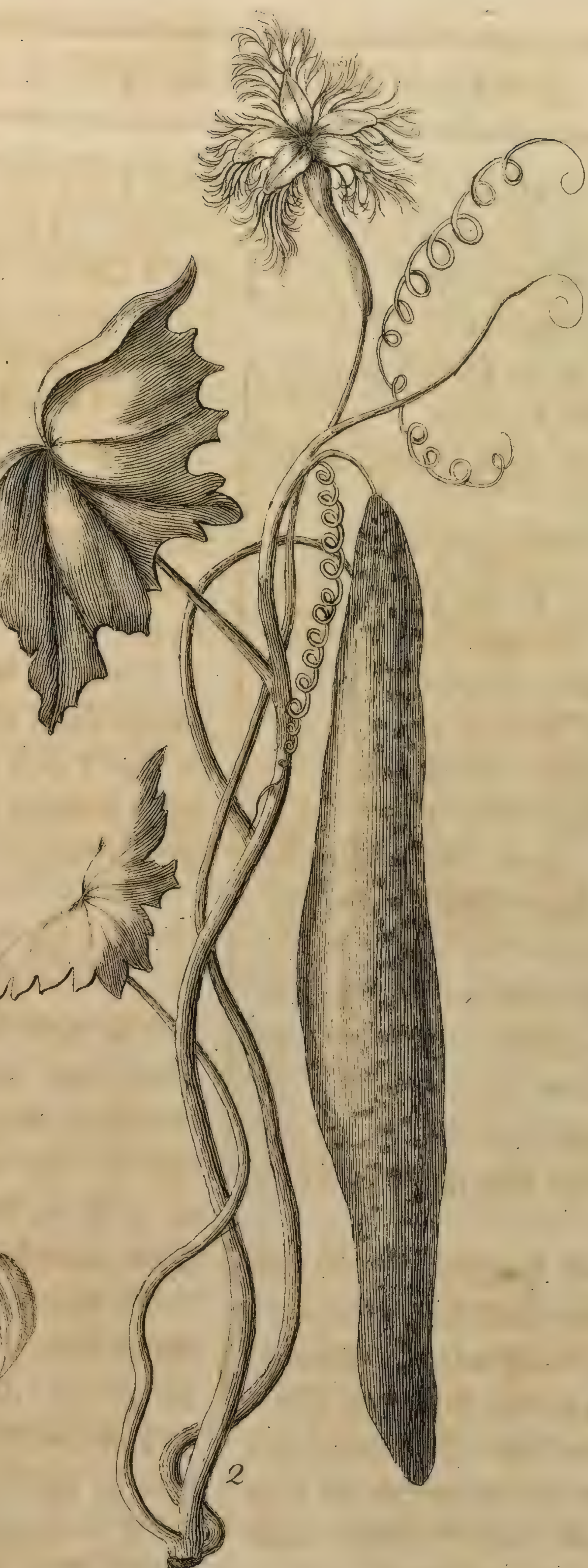
[6] *Rhus Myrtifolia Belgica.* C. Bauhine. 414. Gale.

[7] *Rhus Myrtifolia Monſpeliaca.* C. Bauhine, 414. *Coriaria Myrtifolia.*



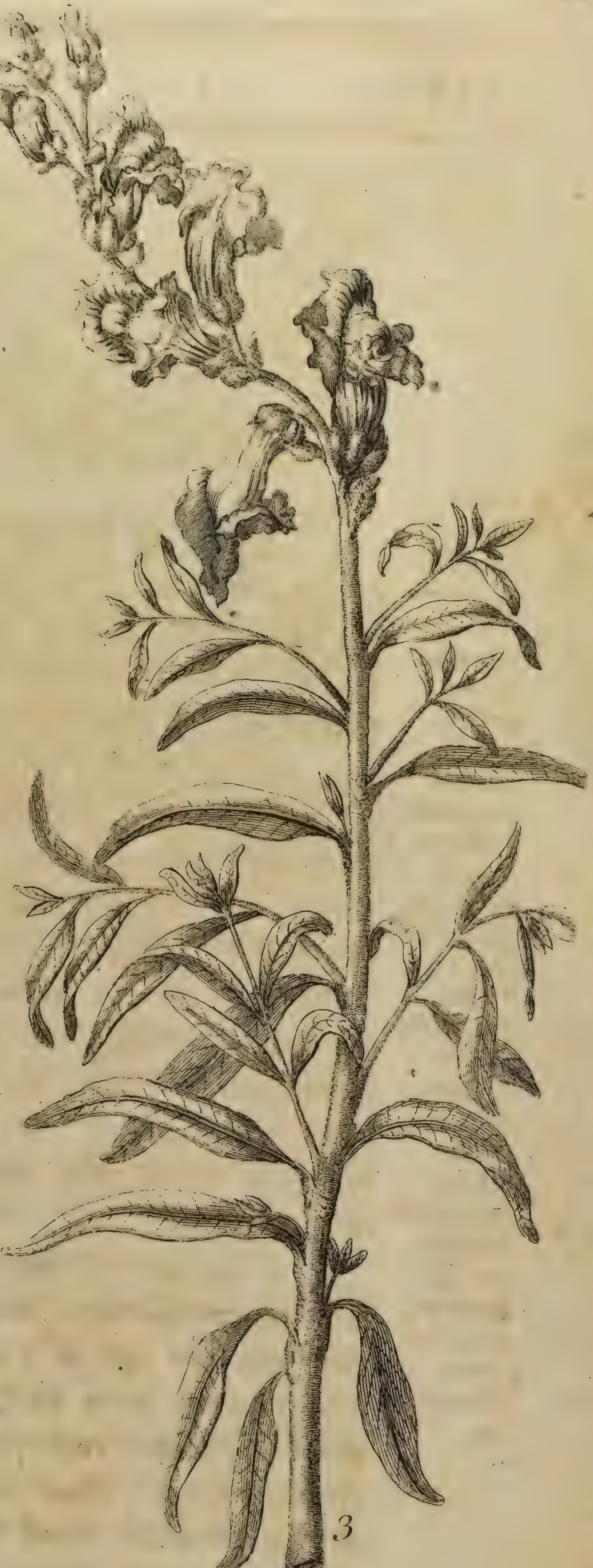
1

Short thick leav'd Aloe



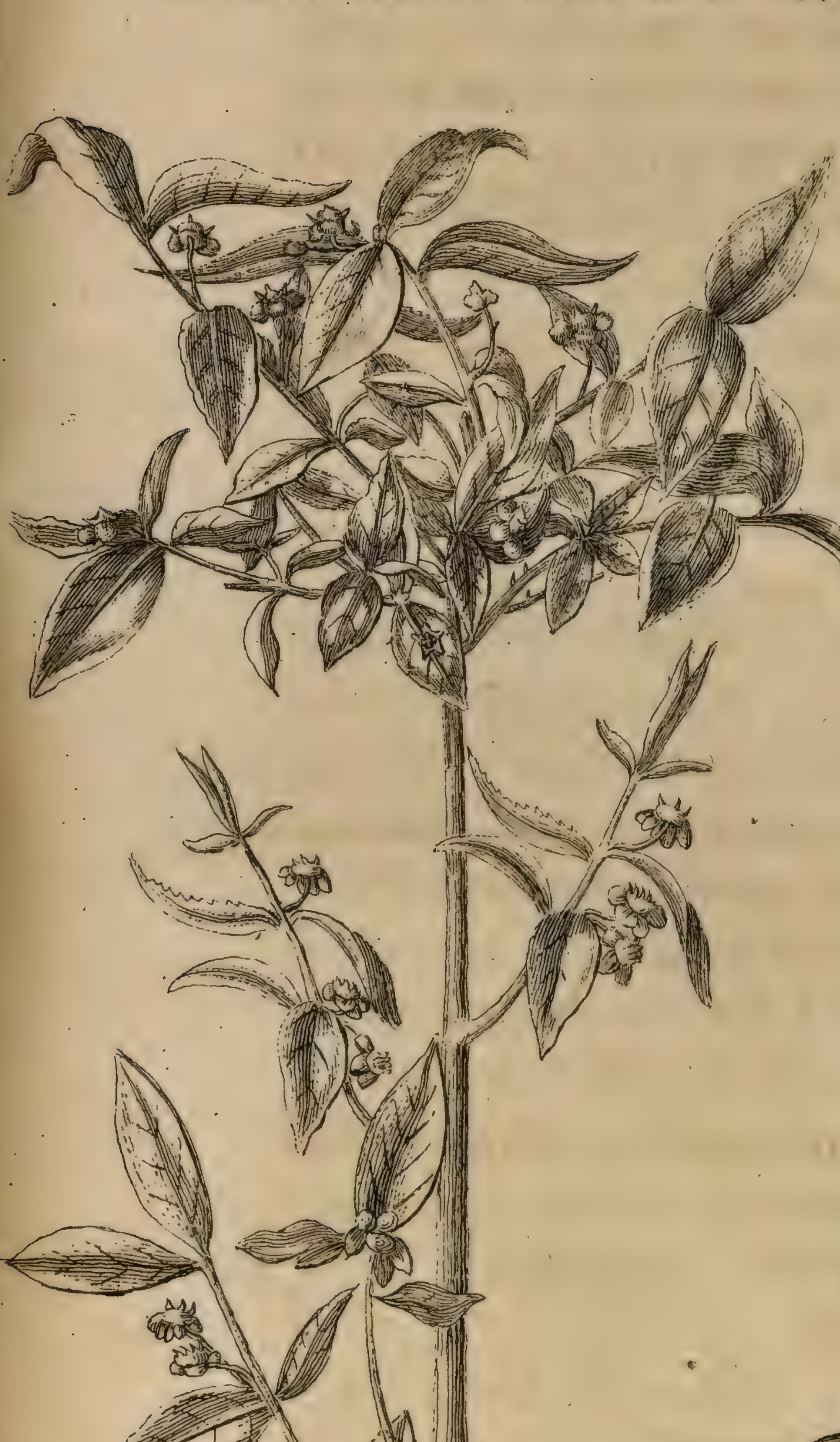
2

Long fruited Trichosanthes



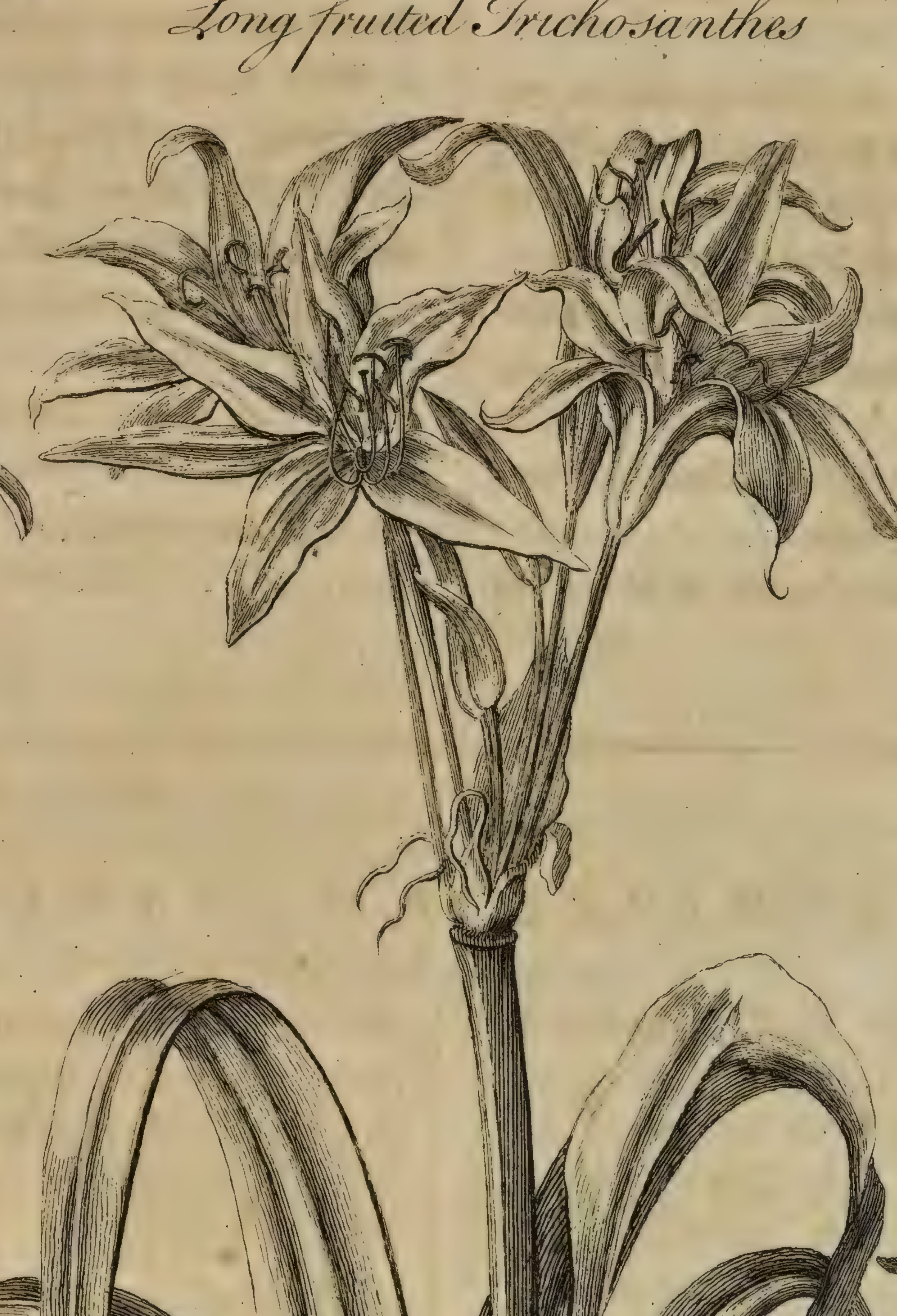
3

Great Snapdragon



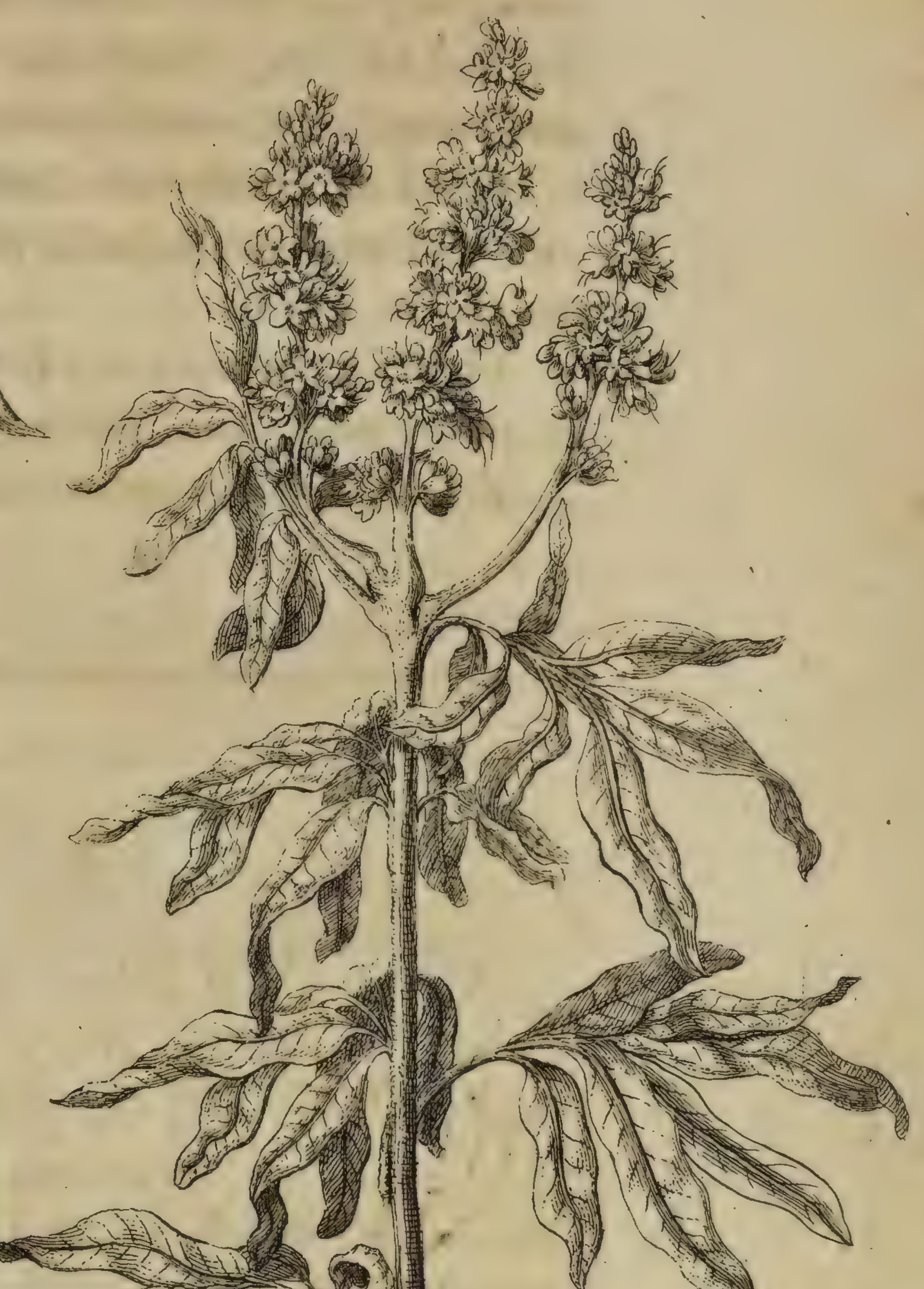
4

American Euonymus



5

Strip'd Amaryllis



6

Vitex

Its Height is two Foot and a half; and at its Top ſtands, at the firſt Appearance, a great Bud, which afterwards burſting diſcloſes ſix or eight noble and erect Flowers.

The Scabbard which had ſurrounded them as a general Cup in the Bud, divides to give them Paſſage, and hangs in purpliſh Fragments from the Top of the main Stalk, where the Flowers take their Origin.

Theſe are ſupported on ſo many ſlender Foot-ſtalks, and each is large, beautifully form'd of ſix pointed Petals, and of a ſnowy white on the Inſide: their Outſide is of a leſs glittering white, and is ſtreak'd along with Purple: ſometimes there runs only one Line of this upon the ſeveral Petals; ſometimes there are more; but the others are always fainter than this in the Centre: and the Tips of the Segments are, on their under Side, often purpliſh.

The Seed-veſſel ſucceeding each, is oval, and contains, in three Cells, a Number of large Seeds.

The Colour of the Leaves, and the bold and noble Aſpect of the Bunch of Flowers, give this Plant a magnificent Beauty to the Eye; but it demands Attention on another Account; the Fragrance is very delightful and very ſingular: thoſe who recollect the delicate Perfume of the *Lilly of the Valley*, will be able to form an Idea of the Scent of theſe Flowers: the Smell is of the ſame Kind, but much more exalted.

The Student who examines the Flower in the Reſpect of Science, finds it to contain, in the Midſt of its ſix Petals, as many Filaments, crown'd each with its oblong Anthera; and in the Centre of them a ſingle Style, with its Top divided into three Parts. This ſhews the Plant to be one of the Sixth Claſs in the LINNÆAN Syſtem, and of the firſt Section, the *Hexandria Monogynia*.

It bears ſome general Reſemblance to the *Pancratiums* before deſcrib'd; but differs, in that it has not the ſingular Nectarium of that Flower, from the Edges of which the Filaments riſe, and into which the Petals are inſerted.

Culture of the STRIPED AMARYLLIS.

Experience ſhews there are not any two of the Exotic Bulbs which require exactly the ſame Culture, or the ſame Soil. This is a Native of the Iſland of *Ceylon*, and there, lives in the lower Grounds, where it has a deep and mellow Earth, and ſome Degree of Shelter.

The Compoſt I have found beſt agree with it, for we have no ſimple Earth that is fit, is this:

Mix two Buſhels of River-Mud, one Buſhel of Wood-Pile Earth, and half a Buſhel of Cow-dung. Let this be put together in Spring, and it will be ready by the Time it is wanted.

The proper Way of raiſing the Plant is from the Bulbs; and to have it in the full Perfection, theſe ſhould be brought from *Ceylon*.

They may be taken up with Care at the Time of the Leaves fading, and kept out of the Ground two Months: after which they ſhould be planted in a Pot of light Earth, and they will thus come over in good Condition.

When they are receiv'd here, they ſhould be carefully clean'd, and planted each in a ſeparate Pot of the Compoſt thus prepar'd for them; raiſing the Surface of the Mould one Inch above the Top of the Root.

When thus planted, they muſt have a little Water, and be ſet in a Bark-Bed of very moderate Heat: here they will thoroughly root themſelves, and they are thence to be remov'd into the Stove, where they will flower, with good Managenagement, in all the Luſtre they have in their native Country.

The principal Care is to pick away dead Leaves; to ſtir the Earth now and then at the Top of the Pot; and to water them frequently, a little at a Time, with Water which has ſtood in the Stove long enough to be of the ſame Temperature.

Leſs Heat will keep them alive; and a leſs careful Management ſometimes bring them to flowering: but with this they will be ſurpriſingly better than when they have been treated more ſlightly.

6. The VITEX.

Pl. XI. Fig. 6. The Shrub we here propoſe to the Reader's Attention is well known; and celebrated for many ſtrange Qualities: of theſe there will be found a poor Account upon Authority; but we recommend it for its Singularity, the pleaſing Diſpoſition of its Leaves, and its eaſy Culture.

The common Writers call it the *Chaſte Tree*, and in *Latin*, *Agnus Caſtus*, Names form'd upon its ſuppos'd Qualities. Others call it *Vitex*, and *Vitex foliis Cannabis modo diſpoſitis*.

LINNÆUS, *Vitex foliis digitatis ſpicis verticillatis: Vitex*, with finger'd Leaves, and verticillate Spikes.

It a Shrub of five Foot high; and may be rais'd to more Height if deſir'd. The Bark is brown on the Trunk, paler on the Branches, and the Twigs are long and ſlender.

The Leaves grow many together on the ſame Foot-ſtalk, and they are diſpos'd in the Manner of Fingers upon a Hand, riſing from one Point, or nearly ſo; and they are narrow and of a duſky green.

The Flowers are ſmall and inconſiderable, ſingly; but being of a pale Purple, they have a pretty Effect as they ſtand in the Spikes. Theſe terminate the Branches; and are long, ſlender, and interrupted at little Diſtances; not uniformly continued the whole Courſe.

The Fruit which ſucceeds, is ſmall and

roundiſh, and it reſembles a Corn of Pepper; hence the *French* call the Shrub *Poivrier*; and ſome in *Latin*, from the Shape and alledg'd Effect of the Seed-veſſel, *Piper Eunuchorum.* Each of theſe Veſſels contains one Seed.

The ſmall Flower, carefully examined, is found of a ſingular Structure. The Cup in which it is plac'd is very ſmall, form'd of a ſingle Piece, and dented in five Places at the Rim.

The Body of the Flower conſiſts of a ſingle Petal, which is tubular at the Baſe, and in the upper Part divides into two Parts in the labiated Manner.

The upper Lip is divided into three Segments, of which the two ſide ones are narrow, and the middle one broader.

The lower Lip is alſo parted into three Segments, and of theſe the middle one is conſiderably bigger than the others.

From the Centre of the Flower riſe four Filaments, on which there are ſo many Buttons. Of theſe there are two longer than the others; and this declares the Claſs to which the Plant belongs, the *Didynamia*. The Capſule containing the Seed, ſhews that it alſo belongs to the *Angioſpermia*: thoſe of the other, having, according to their Name *Gymnoſpermia*, the Seeds naked in the Cup.

The Accounts given us by the reverenced and celebrated Antients, of the Virtues of this Shrub, have preſerved its Name through all the intermediate Ages. They celebrate it as a Preſervative of Chaſtity: the venerable Names of *Dioſcorides* and *Pliny*, *Theophraſtus*, and others, ſtand to authenticate this imaginary Quality; and the *Athenian* Matrons lay upon Beds of its Leaves, while they celebrated the chaſte Rites of *Ceres*. To all that has been ſaid upon this Subject, Reaſon anſwers, Diſeaſes of the Mind find little Aid from Medicine.

Culture of the VITEX.

The Shrub is ſo common, that good Cuttings may always be had, and there is no better way of propagating it.

Theſe ſucceed beſt in Spring.

Let them be taken from a healthy Plant, and ſet in a Border of mellow Earth, well ſhaded.

From Time to Time water them gently, and in the Summer keep them clear from Weeds.

At Autumn break the Ground well between them, and ſift on half an Inch more of good Mould; then ſhelter them by a Reed-Hedge, if the Place be expos'd to cold Winds; and let them take their Chance the Winter.

In the ſucceeding Spring they muſt be planted out; and they will then require no more Care than is beſtow'd upon all other Shrubs which bear the open Air.

They muſt be prun'd of their irregular Branches, and train'd to a proper Head; and tho' they will grow taller, they are never ſo handſome as at the Height of five or ſix Foot. After this they will flower every Autumn.

CHAP. II.

The Care and Management of the Flower-Garden for this Week.

WE have from Week to Week of the late paſt Time, reminded the Gardener how to get into the Ground thoſe Perennial Flowers, whoſe Luſtre he ſhall want to decorate his Borders and Plantations the ſucceeding Summer. We now give him the laſt Admonition on that Head.

Whatever Spot there be that can advantageouſly receive any of the Roots, let them now be put in without farther Loſs of Time, for after this Week there can be no more of ſuch Plantation: whatever is omitted longer muſt be deferr'd till Spring; and thoſe which are then planted will make a poor Appearance the ſucceeding Summer, compar'd with ſuch as have ſtood the Winter.

'Tis not every Perennial that will ſucceed when planted ſo near the Froſts; but from Experience we have found the following Kinds will not fail: The beſt Sorts of *Wall-flowers*, the *Eryngium*, ſome of the *Golden Rods*, with the *London Pride*, the *Thrift*, and *Polyanthus*; ſome of the *Lychnis*, and the *Flag Iris's*.

Of the Shrub-Kind it will be proper to introduce at the ſame Time, where needful, the *Hypericum*, or ſhrubby *St. John's-wort*, the *Spiræa*, and ſome Roſes.

The Ground muſt be very carefully prepar'd, by a thorough Breaking, to receive them; and they muſt have but little Water; this muſt be given them about Nine in the Morning, that the Earth may heat afterwards as the Day advances: and with this ends the Buſineſs of Plantation in the Flower-Garden, till the enſuing Spring.

Whatever Deficiency be left now, muſt ſtand unſupply'd till then; and if the Ground be wet in its Nature, it will be too late to do it now.

The Fear is, that Froſts ſhould harden the Earth before theſe late Plantations can take Root; and this is more likely in wet Soils, the Froſt having in ſuch moſt Power.

This Week let the careful Gardener put together ſome Compoſt in good Quantity, for the ſupplying and amending the Borders of his Flower-Garden in general.

We have deliver'd many different Receipts for ſuiting theſe artificial Soils to particular Plants, but thoſe are principally intended for Pots, for the raiſing tender Exoticks. There is ſuch a Thing as a general Compoſt, which being of a middle Nature between the ſeveral Kinds, will ſuit the Generality of Plants; and will be better than almoſt any Thing which can offer naturally. For this Uſe, the beſt Mixture I have experienced, and I have tried many, is the following.

Cut up a Load of Earth from under the Turf, in ſome expoſed Place by a Road-ſide, or elſewhere, where there has been no great Growth of Weeds, and where Cattle have frequently lain.

Pare off the Turf three Inches thick, and cut for your Uſe, the good Soil one Spade Depth below it.

Let this be taken up in a Place where the Ground is naturally good, and it will be a kind of Virgin Earth.

The Roots of the Graſs have ſcarce at all penetrated it, and it is enriched by the Urine and Perſpiration of the Cattle, and with the richeſt Part of their Dung waſhed in by Rains.

To one Load of this, add half a Load of Wood-pile Earth, three quarters of a Load of River-mud, and half a Load of Marle: ſet the Turf in a high Heap, which was cut off the Ground; and putting ſome dry Furze Buſhes under it, ſet them on Fire. Burn the Turf, not to Aſhes, but till it comes to a Heap of crumbly reddiſh Matter. Bring in this and put to the reſt.

Let all theſe be perfectly well mixed together, and laid in a Heap, ſprinkling them at firſt with four or five Pots of Water, and afterwards leaving them to the Effect of Rain and Froſt.

Once in a Month the whole Heap is to be turned, and when it has lain the Winter it is to be ſcreened for the Service of the Borders.

The manner of ſcreening, we ſhall direct when we treat of that Seaſon. This is all that is to be done at preſent, and this will produce a Compoſt, rich without Dung; and ſuch, as if duly wrought, by good digging and breaking, will feed all the common kind of Garden Flowers luxuriantly for their uſeful Parts, without making them rank in Leaves.

It will alſo raiſe many of the moſt choice Flowers.

Plants will live in it longer, and endure the Winter always better than in dunged Soils; and they will in general ripen their Seeds more perfectly.

Many employ more Time and Trouble on their Compoſts, who ſucceed much worſe: This we recommend from frequent ſucceſsful Trials.

In Places where Marle cannot be had, the Quantity of what is ordered here, muſt be made up, half with Wood Pile Earth, and half with Pond Mud, and about half a Peck of Stone Lime muſt be added. This we have found very well ſupply the Deficiency.

We have recommended to the Gardener, the following the Practice of the *Dutch* and *French*, in raiſing all bulbous Flowers from Seed.

A Succeſſion of theſe muſt be ſown in moveable Boxes of fine Earth, as we have directed, and ſhall farther explain at the Seaſon.

They muſt now be removed into a warm Place, where they may be ſheltered from Winds, and enjoy the full Benefit of the Winter's Sun: They muſt be looked over carefully, that no Weeds be ſuffered to riſe among them, nor Moſs to appear on the Edges.

This Care will keep them in all the Strength required for their ſlow Progreſs at the preſent Seaſon, and they will advance in their gradual Way to Perfection.

This Care being taken of the Seedling Bulbs, let the Gardener ſee that none of his valuable potted Flowers are left expoſed, but that his Carnations are under Hoops and Mats, and his Auricula's on their covered Stand. That done, he may for the preſent Week leave this Part of the Ground.

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SECT. II.

The Buſineſs of the SEMINARY, *for the preſent Week.*

THE Growths of the Nurſery are to be in the ſame Manner protected from the Froſts of the ſucceeding Months, as the Products of the Flower-Garden; though in a different Degree.

When there are Beds of Seedling Shrubs, or of perennial Flowers of a ſomewhat tender Nature, they muſt be defended from the enſuing Rains and Froſts.

The beſt Method is by Hoops and Mats, or Cloths. Only let the Gardener remember this is a Place where Things are raiſed for Hardineſs; and therefore while he preſerves them alive, let him take Care he does not make them too tender. Let the Hoops that defend theſe Beds ſtand high, and the Mats never be drawn over them, but in very bad Weather; and even in the worſt, let them have ſome Air at thoſe Hours when it is well warmed by the Sun.

This is the Practice which beſt ſuits thoſe Seedlings that have ſome Height; and it may be uſed alſo to Cuttings of the tenderer Kinds that are ſet in this Part of the Ground.

For thoſe Beds in which the Plants are but ſhooting, or have very little Height, the beſt Defence is a ſprinkling of long dry Straw, which muſt be taken off again when the Weather is better.

There will be alſo in the Seminary ſome potted Trees. Theſe are moſtly Exoticks, which coming from moderate Climates bear our Air in Winter; though they require ſome Care.

What ſhould be done with the more tender Kinds has been ſaid already; they are in the Green-houſe or the Stove at this Time: and ſome Care muſt be taken of theſe. The beſt is this.

Throw down a dozen Barrows of Sand upon ſome dry Piece of the Seminary: dig this in; work it well with the reſt of the Ground, and then open Trenches length-wiſe in it of the Depth of the Pots, and of a Length to hold them in two Rows.

Theſe two Trenches being made at a Foot Diſtance (or three or more if the Number require it) ſet in the Pots one by one, at a Foot Diſtance in each Trench, fill up the Spaces between them with more Earth of the ſame kind, and level the Beds to the Rim of the Pots.

The Trees and Shrubs for which this Management is intended, are young, and the Danger to which they are expoſed, is that of the Froſt penetrating to their Roots through the Sides of the Pots.

This is a certain Method of preventing it; and they will thus live through the Winter in the open Air, and be very ſecure when carried into their proper Places.

SECT. III.

POMONA, or, the Fruit-Garden.

CHAP. I.

Fruits yet in Seaſon.

THE fewer the Fruits are, which continue in Seaſon at this Time, the more valuable they become.

The Currant is a kind little regarded when there is Plenty of ſuch as are more elegant; but a Plate of theſe in *November* or *December*, will be agreeable at the beſt Table: and there is an eaſy Method by which the Gardener may ſupply them.

Few Gardens are without a Shrub or two of this kind, nailed againſt a Wall; and none ſhould be without them.

As the Fruit ripens on theſe, let a double Mat be nailed over the whole Part of the Wall, where the Tree ſpreads: let it fall over the entire Branches, and be brought pretty cloſe at the Sides; but let it have Air at the Bottom, and in about two Places ſideways.

The Time of doing this is the middle of a dry Day, and it may be done ſooner or later; but never will be out of Time, ſo long as there remain any Fruit upon the Trees; becauſe thoſe which are covered lateſt will laſt longeſt good.

This will prevent the Sun at Noon from withering them, and the Froſts at Night from nipping them; and thus both Red and White may be now, and for three Weeks or a Month longer, ſent up to Table.

Theſe with the ſeveral Species we have directed to be laid up for earlieſt Uſe, and the Aſſiſtance of the Nut kind, and ſome very late Plums, will yet ſet out a Deſert at a tolerable Manner, or ſerve to fill up the Board about a Pine-Apple.

CHAP. II.

The Method of preſerving Apples for the Winter's Uſe.

THE Variety of Kinds ſuit Apples to various Purpoſes; and they require accordingly a different Manner of Preſervation.

We may divide them under two general Kinds; thoſe intended for the Deſert, and thoſe for the Service of the Kitchen.

As to the ſeveral Kinds deſign'd for eating as they are, they muſt be gather'd with Care; and when every one that has the leaſt Blemiſh is ſeparated from among them, they muſt be carefully laid in a Heap, and cover'd, as we directed for Pears.

When they have been a few Days damp on the Surface, they ſhould be one by one wip'd; and when any Speck or Mark of Decay is ſeen upon any one, it muſt be thrown out. Then the fineſt muſt be reſerved by themſelves, and the reſt laid in a ſingle Layer upon the Floor and Shelves of a dry airy Room.

From Time to Time theſe muſt be watch'd; the ripeſt taken up for the Table, and any decay'd ones remov'd.

In fine Weather the Windows muſt be open'd in the Middle of the Day; and in Rain and Froſt they muſt be kept conſtantly ſhut. When the Froſt is very ſevere, ſome dry Straw ſhould be ſcattered over the Fruit.

The fineſt of the Apples which we ordered to be ſeparated from the others, ſhould be preſerved with dry Moſs in Earthen Jars, as we directed for Pears; and roſin'd down. Theſe will come in very agreeably, when the others are over.

The beſt Way of keeping thoſe Apples intended for the Kitchen, is to pile them in a Heap, as the others, and cover them with a Blanket. Under this they may ſweat four or five Days longer than the finer Kinds; and being then wip'd one by one with Linnen Cloths, they muſt be carefully pil'd up in Heaps again.

In theſe they are to lie, taking off the Outſide Fruit as wanted; and at all Times carefully removing any decay'd or bad ones. Theſe alſo in very ſevere Weather ſhould be cover'd with a little Straw.

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CHAP. III.

Of the Care and Management of Fruit-Trees for this Week.

THE Buſineſs of Pruning, concerning which we gave Directions in our laſt Week's Number, may be ſtill carry'd on. The Method to be us'd in Reſpect of the Apricot and Peach, we have already given; and the Nectarine being in nothing particular, is to be manag'd in the ſame Manner.

Theſe being the moſt valuable Kinds, are to be prun'd firſt; and after they are finiſh'd, we ſhall direct the Gardener to go to his Apple and Pear-Trees. Theſe two Kinds agree in a great Meaſure with one another in their Nature, but they differ widely from thoſe we have juſt mention'd: this is a Point very eſſential for the Gardener to underſtand, becauſe upon this depends entirely the Method of Pruning.

The Peach, and others of that Claſs, produce their Fruit naturally upon the laſt Year's Wood. On this depends the Method of their Pruning.

Reaſon directs for this Purpoſe, that their Branches ſhould be ſhorten'd to a greater or leſſer Diſtance from their Origin, according to their Strength, and the Vigour of the Tree; becauſe by this Method they will produce new Shoots for the ſucceeding Year.

On the other Hand, it is the old Wood that yields the Pears: the five or ſix Years Branches yields moſt of all.

There riſe from theſe a peculiar Kind of Shoots, which are ſhort, robuſt, and deſtin'd for the Growth of the Fruit.

This plainly indicates what is to be the Method of pruning them.

They muſt not be ſhortned, becauſe that Operation would make the Branches, Nature intended for ſhooting theſe Sprouts for the Fruit, ſend out more Wood.

The Conſequence of this would be, that the Tree would be loaded with uſeleſs Boughs; and there would be ſcarce any Branches left in the Condition Nature intended for bearing.

This Method would alſo frequently cut away the very Parts on which Bloſſom Buds ſhould have appear'd.

The Branches of Pear Trees therefore muſt never be ſhortned in the general Courſe of Pruning: but if any one happens to grow very large in an improper or irregular Place, then ſuch a Straggler may be cut off, to the Place where it will ſhoot more regularly or uſefully.

This would not ſucceed in the Peach and Nectarine Kind, for the Stump would come to nothing; but the Pear will ſhoot freely from the old Wood. In theſe Trees wherever a Branch runs croſs another, the weaker of the two muſt be cut out.

Whenever the Branches ſtand too cloſe, they muſt be thinn'd; for a Pear Tree that is too full of Wood will never bear well.

It is eſſential to theſe, above moſt other Trees, that the Branches ſtand free and clear of one another, that the Sun and Air may have full Paſſage.

All thoſe young upright Shoots, which riſe in theſe Trees from the Trunk, muſt be now cut out, for the Reaſon we have juſt given; for there could never be a free Paſſage of the Air, or due Diſtance of the Branches, where theſe were encourag'd.

If there be dead Wood in any Part, that muſt alſo be carefully cut out; and all this done, the Trees muſt be ſtrictly examined as to the Diſpoſition of the Branches: they ſhould be left, for Service, at a moderate Diſtance, that the whole Tree, and the Fruit in every Part of it, may have the Benefit of free Air; and, for the Sake of Beauty, that Diſtance ſhould be nearly equal.

The Gardener who pretends to moſt Knowledge

ledge, generally employs his Knife moſt freely: let him in theſe Trees employ its Uſe according to theſe Directions, or he will never ſucceed. When he manages otherwiſe, he may depend upon this Truth, That the more Cutting, the leſs Fruit.

The natural Place of the Pear's Bloſſom-Bud is the Extremity of the laſt Year's Shoot: now when this Shoot is ſhortned, the Bloſſom is cut off before its Appearance; and, as we have before ſaid of this Tree, the Vigour of Nature, which would have produced afterwards Sprouts for the Fruit on the Sides of that Branch, is exhauſted, by ſending out new Shoots of Wood.

There is no Need to provide for a new Supply of Wood in theſe Trees; for the Shoots that bear one Year, continue fruitful many; and they will, in a Manner, cover the principal Branches.

What is to be done further in the Training of theſe Trees for Uſe and Beauty, muſt be in Summer, and we ſhall give the Directions for it in their Seaſons.

SECT. IV.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Products of the Kitchen-Ground now in Seaſon.

THO' this is not a Seaſon when many new Products are to come in, we ſhall occaſionally remind the Owner of a Garden, of the principal among the better Kinds which continue.

He may now expect, in very good Order, beſide the common Furniture of every Green-Stall, Cauliflowers, which, under the Management we have directed, will be fine, white, and ſound. There will alſo be Artichokes; and the Root call'd *Jeruſalem* Artichoke: Scorzonera, Salſafie, Skirret, and *Dutch* or larger-rooted Parſley. There will alſo be Celeri, Chardoons, and Muſhrooms, and ſome Hot-Bed Aſparagus.

We ſhall deliver the Methods of bringing all theſe to their Perfection, as we treat occaſionally of the ſeveral Seaſons of planting and preſerving them; and he who has ſo many good Products for this and the more advanced cold Seaſons, will almoſt defy the Hand of Winter.

CHAP. II.

The Care and Management of the Ground.

WHILE the Labours of the Year are many in other Parts of the Garden at this Seaſon, the Hands are at Liberty that ſhould perform them, becauſe but little is demanded here.

Let the Gardener take the Advantage of a dry Day, and open a few Trenches in ſome ſhelter'd Part of his Kitchen Ground for Peaſe.

Let him alſo plant ſome more Beans. They will ſhoot at the due Time, and lay the Foundation for a Succeſſion.

Let him go over the Ground where his forward Crops of theſe two Kinds were planted, and break the Earth between the Rows, and draw it up about the Stalks. This will defend them againſt rocking with the Wind, and will keep the Froſt from their Roots.

In good Weather let him take off the Glaſſes from the Cauliflower Plants; and uſe this Opportunity of drawing up the Earth about them, without deſtroying the young Salleting ſown at the Edges.

As Froſt is now to be expected that will harden the Ground beyond the Power of the Spade to enter, thoſe Roots which will be requir'd for the Service of the Table, ſhould be taken up and preſerved.

Let a large Quantity of Sand be dry'd and ſifted, and make a Bed of it three Inches deep, on the Floor of ſome dry Room. Take up the Roots of a good Quantity of Salſafie and Scorzonera, as alſo of the great-rooted Parſley, and having wip'd them clean, lay them carefully upon this Bed of Sand. Cover them four Inches deep with more of the ſame dry Sand, ſifting it on, that it may fall regularly.

In the ſame Manner make larger and deeper Beds of Sand for Carrots, and among them lay a few Parſnips; ſift over them more Sand, and ſcatter ſome dry long Straw upon the Top. Out of theſe Beds they are to be taken as they are wanted in the Kitchen.

EDEN:

A
COMPLEAT BODY of GARDENING.

NUMBER XII.
For the Middle of *NOVEMBER*.

SECTION I.
FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.
Flowers and Curious Plants now in their Perfection.

1. THREE-RIBB'D CEANOTHUS.

Nov.
Pl. XII.
Fig. 1.

THE Gardener recollects, that, beſide thoſe Shrubs and Plants diſtinguiſh'd by their Beauty, we recommend ſome for their Singularity. This is one of them: tho' were it wholly without the other Recommendation, it would not have been ſelected for this Purpoſe.

Authors have call'd it by various Names; and 'tis but of very late Time its true Place, in a regular Arrangement of Plants, was known: we owe this to Linnæus; but he has in his former Works, miſplac'd it: that Author, in the *Cliffort* Garden, calls it a *Celaſtrus*; and he is follow'd in that Name by Gronovius and Van Royen.

Commeline names it an *Euonymus*; but in the *Species Plantarum*, Linnæus departing from his former Opinion, calls it a *Ceanothus*; adding, as a Diſtinction of the Species, *foliis trinerviis: Ceanothus*, with three-rib'd Leaves.

The Root is woody and ſpreading.

The Shrub riſes to ſix or eight Foot high, and the Stem is tolerably ſtrong.

The Bark on this is of a greyiſh brown, but on the young Shoots it is purpliſh.

The Branches ſpread variouſly and irregularly, and are full of very handſome Leaves.

Theſe are oblong, large, and of a fine ſhining green. They have ſhort reddiſh Foot-ſtalks, and they are ſerrated at the Edges, ſharp-pointed, and ſtrongly mark'd with three longitudinal Ribs.

Nov.

The Flowers are in nothing conſiderable but their Number; for they have neither Bigneſs, Scent, nor Colour. They ſtand in Cluſters, and are white.

After theſe come ſmall and dry three-corner'd Fruit, of a brown Colour.

The Student, to know the Place of the Shrub in the Linnæan Syſtem, muſt examine this little Flower: and he will, in that cloſer Obſervation, find enough of Singularity.

The Cup, embracing the Baſe of the Flower, is ſmall, and green at the Bottom; but at the Top it ſpreads out into ſome Breadth, and is divided into five Segments, ting'd with a whitiſh or a reddiſh Colour.

The Body of the Flower is form'd of five Petals. Theſe are very ſmall, extremely obtuſe at the End, compreſs'd, arch'd, and ſwell'd, and they have long Baſes, which adhere to the Segments of the Cup.

In the Centre ſtand five Filaments, crown'd with roundiſh Buttons; and in the Midſt of theſe riſes a ſingle Style. This ſhews the Place in the Linnæan Syſtem.

The *Pentandria*, the Fifth of that Author's Claſſes, receives thoſe Genera which have five regular Threads in the Flower, and this is one of the

Nov. firſt Section under that Claſs, the *Monogynia*: this is learn'd from the Style being ſingle.

Culture of the CEANOTHUS.

This Shrub ripens its Seeds with us, and may be rais'd from them. They may alſo be had from *North America*, where it is very common, and it will riſe freely from them. This Method affords the handſomeſt Plants, but they are long in coming to Perfection: we therefore recommend the Method by laying. The Branches readily take Root this Way, and there requires no particular Management. Nov.

They will be fit to take off the next Seaſon; and after that no more is requir'd than to pot them; and, for perfect Security, to take them into the Green-houſe in Winter. The Leaves fall in Autumn, but they appear early in Spring.

2. CORYMBOUS GREAT SELAGO.

Pl. XII. Fig. 2. This is one of thoſe Plants which doubly claim their Place in a judicious Collection, from their Singularity and from their Beauty.

It is another of thoſe Species, whoſe ill-determin'd Genus, till of late, has led Authors to call it by a Variety of Names.

It is deſcrib'd in RAY and MORISON under the inartificial Name of *Millefolio affinis Maderaſpatana*.

COMMELINE calls it *Camphorata Africana*.

LINNÆUS, *Selago corymbo multiplici: Selago*, with a manifold Cluſter of Flowers. Under this generical Name it ſtands alſo in VAN ROYEN.

Let the Botanical Student here avoid confounding Things in his Imagination.

DILLENIUS has unluckily call'd, by this Name *Selago*, a kind of Moſs. COMMELINE is not without Excuſe, tho' without Reaſon, in calling the Shrub a *Camphorata*. HERMAN had firſt deſcrib'd it under that Name, and he conform'd to the Cuſtom of the Botaniſts of his Time.

The Root is divided, hard, and hung with innumerable Fibres.

The Stem is woody, and divides at a ſmall Height into a great Number of Branches. The Bark, on the larger Parts, is greyiſh, but on the ſmaller, it is of a pale green, or lightly daſh'd with a reddiſh Brown.

The Leaves are ſmall, but their Number very well atones their ſeparate Bigneſs; and they are plac'd with a Beauty and Regularity ſcarce known in any other Plant. They are ſmall, oblong, ſharp-pointed, and they ſtand in Cluſters at the Joints, like Pencils.

The Flowers, like the Leaves, are ſeparately ſmall, but they ſtand in ſurpriſingly thick Cluſters, reſembling, in ſome Degree, the Diſpoſition of Flowers in the *umbelliferous* Plants. They are white, and when view'd at a ſmall Diſtance, each appears to have four little Spots of a gold yellow. Theſe are indeed the Buttons terminating the Filaments; but they ſeem, at ſome Diſtance, plac'd on the Flower.

Theſe lead the Student to the Claſs to which this ſingular Shrub is to be referr'd; but it is fit withal he take an exact View of the Flowers. He will find each is plac'd in its little Cup, and this is form'd of a ſingle Piece, divided into four ſmall Segments, of which the under one is largeſt.

The Body of the Flower is form'd of a ſingle Petal; tubular a little Way at the Baſe, and ſcarce pervious; and at the Edge divided into five oblong Segments, ſomewhat unequal; two at the Top being ſmaller, and one at the Bottom larger than the two at the Sides.

The Filaments are inſerted in the Body of the Flower, and they alſo are unequal: two being longer than the others; this is an Inequality which the Student has been already inform'd, marks a LINNÆAN Claſs, the *Didynamia*; and the ſucceeding Fruit, which is looſe, ſhelly, and form'd of the Remains of the Flower, making a kind of Capſule for the Seed, ſhews it to be one of the *Angioſpermia*: the Seeds being cover'd marking that Sub-diſtinction.

Culture of the CORYMBOUS SELAGO.

This elegant Shrub is a Native of *Æthiopia*, where it naturally lives in a poor, barren, ſandy Soil. On theſe Articles, we have inform'd the judicious Gardener, is always to be founded the Culture and Management of Plants; and what Experience has added to confirm this Practice, we ſhall lay down in the preſent Inſtance.

To ſuit the Soil to the Nature of the Plant, it muſt be dry; and yet to give it the full Vigour in our Country, there muſt be ſome Richneſs: this muſt be given without encumbring the Maſs; and it may be happily effected thus:

Throw in a Heap a Barrow of Under-turf Earth, from a dry Common: add a Peck of Coal-aſhes, two Pecks of Marle, and a Pound Weight of fine Shavings of Horn, ſuch as are ſold at the Lanthorn Cutters.

Let this be put together at the preſent Seaſon, and lie all Winter.

In this Compoſt the Shrub may be rais'd from Seed, or otherwiſe.

If from Seeds, they muſt be had from the Place of its natural Growth, for it does not eaſily ripen them here. This is alſo a tedious Method: for both which Reaſons we prefer, where Slips can be had, the propagating it that Way.

To this Purpoſe, early in Spring, let half a Dozen ſmall Pots be fill'd with this Compoſt: let as many Slips be carefully taken off from a thriving Plant; and pierce them thro' and thro', in two or three Places, with a fine Awl.

Then plant one in each Pot; give it a gentle Watering; and all being ſo ſet, place them in a Bark

Nov. a Bark-bed of gentle Heat up to the Rim of the Pot.

Shade them carefully, and water them every other Day. Let them have all this Aſſiſtance of Warmth, Shade, and Moiſture to make them take Root, and after they have ſhot, admit the Air to them by Degrees.

They will thus be hardened and ſtrengthened, and when they have ſtood ſome time longer in theſe ſmall Pots, let ſome larger be filled up one Fourth with the ſame Compoſt; as many as there are thriving Plants.

Looſen with a thin-bladed Knife, the Earth from the Sides of the ſmall Pots, and get it out entire, place this with its Plant upright in the larger Pot, and fill up carefully in the ſame Mould: Give a gentle Watering, and ſet them upon the Tan in the ſame Bed for ſome Days, watering them every Evening.

This will ſtrengthen them to bear the open Air by raiſing the Glaſſes, and when well eſtabliſhed, they muſt be brought out in the middle of a warm cloudy Day, and ſet among the Exotics.

After this they require no particular Treatment: They muſt only be managed as the reſt, and at the Approach of Winter be taken into Shelter.

3. YELLOW INDIAN SIDA.

Pl. XII. Fig. 3. This for the Beauty of its Flower and handſome Growth, deſerves its Place in any Collection.

The Generality of late Authors have been acquainted with the Plant; but it is one of the numerous Inſtances how ill the Diſtinctions in Botany were eſtabliſhed, till LINNÆUS.

PLUKENET, and BOCCONE, join to call it an *Althæa*. The firſt *Althæa Carpini folio*---The latter *Althæa Virginiana Bidens.*—COMMELINE calls it an Alcea or Vervain Mallow, *Alcea Carpini folio.*—And DILLENIUS, a Malvinda.

LINNÆUS and VAN ROYEN name it a Sida, and add to diſtinguiſh the Species, *Foliis cordato ovatis ſerratis, Stipulis ſetaceis, axillis ſubſpinoſis.* Sida with ſerrated, oval and heart-ſhaped Leaves, with briſtly Films, and the Inſertions of the Branches ſomewhat prickly.

The Root is white, large and divided. The Plant is two Foot and a half high.

The Stalks are round, upright, and variouſly divided into Branches.

On theſe the Leaves are placed with a becoming Wildneſs. They are of a handſome Figure, long, elegantly indented at the Edges, ſharp-pointed, and at the Baſe where they are broadeſt, they are indented in a heart-like Manner for the Stalk.

From the Boſoms of theſe riſe ſmall Stalks and Branches, for the Support of the Flowers; and with them filmy Subſtances and a kind of harmleſs Prickles in the Place where they join the main Stalk.

The Colour of the Leaves on theſe ſmaller Branches, is a pale greyiſh Green.

Thoſe on the main Stalk are of a deeper Green, but ſcattered over with a ſilvery Down, which gives them a Paleneſs to the Eye, and makes them ſoft and velvety to the Touch.

The Flowers are large, elegant, and numerous; they are ſcattered in a manner all over the Plant. Some riſe with ſimple Foot Stalks from the Boſoms of the Leaves; and others are placed at the Extremities of the ſmaller Branches.

They are of a pale but very elegant Yellow, ſomething deeper than Lemon-peel: and they have yellower Buttons in great Number in the Centre.

To know the Claſs to which the Sida belongs, let a ſingle Flower be examined carefully; its Cup is form'd of one Piece, wide at the Mouth, and indented in five Places round the Rim.

The Body of the Flower is compoſed of five diſtinct Petals uniting at their Baſe; theſe are broad, obtuſe at the End, and very narrow at the Baſe.

The Centre of the Flower is occupied by a tubular Body, formed of numerous united Filaments. Theſe at the Top ſeparate again, and ſtand free ſome Part of their Height, and have at their Tops rounded Buttons.

The Style is ſhort and ſingle: the Flower being fallen, appears a Fruit, in the whole of a roundiſh pointed Form, but compoſed of numerous Cells joined one to another, which when they ſeparate appear horned.

The Conſtruction and Arrangement of the Filaments in this Flower, being ſingular, are the Characters of its Claſs and not their Number; we have made the Reader acquainted with the ſixteenth in the LINNÆAN Syſtem, the *Monadelphia.* Its Characters he has ſeen, is, that the Filaments coaleſce at their Bottoms; this Character he reads in the preſent Flower, and he is therefore to refer the Plant to which it belongs to that Claſs.

The third Section or Subdiviſion under it, containing the *Polyandria,* the Number of Filaments and their Diſpoſitions here, very plainly diſcover that it is alſo of that Diviſion.

Culture of the YELLOW SIDA.

This Plant is a Native of the *Eaſt* and *Weſt-Indies*; and in both is found in the ſame Soil, which a deep and rich black Mould, at ſome ſmall Diſtance from Water, or near the Foot of a Hill.

This is to be our Rule for its Culture; and let a Compoſt be thus made for it. Mix together

Nov. four Buſhels of under Turf Earth, from a rich low Meadow, one Buſhel of Cow Dung, and half a Buſhel of Pond Mud. Let theſe be laid together at the preſent Seaſon of the Year, and they will be ready when wanted.

Early in Spring let the Seeds be ſown upon a Hot-bed covered with good Garden Mould.

When the Plants are three Inches high, let the beſt of them be ſelected for raiſing, and planted each in a ſmall Pot, filled with the Compoſt juſt deſcribed.

Let theſe be ſet in a Bark-bed, and ſhaded and watered till they have taken Root; then let them be gradually hardened to the Air.

As they grow large, let larger Pots be provided for them. Let a little of the Compoſt be put in each of theſe, and let the whole Lump of Earth be taken out of the ſmall Pot with the Plant. Nov.

Set this upright in the larger Pot, then fill round with more of the Compoſt; give a gentle Watering, and ſet them on the Tan-bed again, till well fixed, and hardened, by opening the Glaſſes carefully.

After they are thus raiſed to a due Height and Strength, let them be ſet out in the middle of a warm cloudy Day; and placed among the Exotics.

At the Approach of Winter, let ſome of them be taken into the Green-houſe, and ſome into the Stove; they will flower longeſt and fulleſt in the latter Place.

4. CANARY BELL-FLOWER.

Pl. XII. Fig. 4. There is not a more beautiful Plant than this, if we take in the Conſideration of all its Parts, in the *Campanula* kind; and ſcarce its ſuperior in any other.

The Diſpoſition of the Leaves as well as their Form, attract the Eye; and the Figure, Place, and Aſpect of the Flowers fill it with Satisfaction.

The earlier Writers were not acquainted with this Species, but among the later, ſcarce any have omitted to name it; and the Characters of the Genus are ſo ſtrongly impreſſed upon it, that all have agreed to call it by the ſame Name, *Campanula.*

To this LINNÆUS adds, as a Diſtinction of the Species, *Foliis haſtatis dentatis oppoſitis petiolatis, capſulis quinque locularibus. Campanula* with ſpear-pointed and dentated Leaves placed oppoſite on Foot-ſtalks, and with five Cells in the Seed Veſſel.

Our Gardeners call it univerſally from the Place of its natural Growth, *Canary Campanula.*

They do not chuſe to part with a *Latin* Name when they have got it, though the *Engliſh* one be ever ſo familiar.

The Root is tuberous and hung about with Fibres.

The Stalk is round, upright, and ſix or eight Feet high, purpliſh at the Bottom, and of a pale Green upwards.

The Leaves riſe ſometimes two, ſometimes three at a Joint. Theſe are very diſtant: and from their Boſoms generally ſhoot up ſome young Stalks, which give a very beautiful tufted Appearance to the Part of the Plant where they are ſituated.

The Leaves have long, ſlender, and reddiſh Foot-ſtalks: they are of a beautiful greyiſh Green, and of the Shape of a Spear Point, with two Beards at the Bottom: they are ſharp-pointed and ſerrated at the Edges.

The Flowers are large and elegant, they hang drooping, and they are of the perfect Bell Shape, and of a bright flaming Yellow, tinged with Red.

The Seed Veſſel is large and contains numerous Seeds.

The Flower muſt be laid open to diſcover thoſe ſmall Parts, on which the Characters of the Claſs are impreſſed.

It is hollow, deep, broad and impervious at the Baſe; and at the Edge is divided into five Segments. When thus torn open, there appears in the Centre of the Baſe its Nectarium. This muſt be firſt obſerved, becauſe the Filaments riſe from it. It is compoſed of five ſmall pointed and convergent Scales.

Upon the Tops of theſe are placed the Filaments, which are therefore alſo five; they are very ſmall, and they have long and flatted Buttons.

In their Centre appears the Style, which is longer than theſe Filaments, and has a Crown upon its Top of an oblong Shape, divided into three Parts, which when mature turn back.

The Number of the Filaments as they ſtand regularly, ſhews the Claſs of the Plant: it is one of the *Pentandria*, the fifth of LINNÆUS; and its ſingle Style ſhews it one of the *Monogynia.*

Culture of the CANARY BELL-FLOWER.

We have given the Gardener his everlaſting Rule, to find the Soil moſt proper for his Plants by enquiring in what kind they naturally are found in their proper Country.

This is uſually to be learned in the more accurate Botanical Writers. With reſpect to the preſent Species in the *Canaries*, it is always found in a dry ſandy Ground, and notwithſtanding that Diſadvantage riſes to twelve Feet in Height.

This ſhould be our Rule for the Compoſt ſuited to it, and upon this I have experienced with Succeſs the following Mixture.

Take two Buſhels of Upland Paſture Ground, one Buſhel of Wood-Earth, and half a Buſhel of Sand. Mix all theſe well together; and let them be expoſed to the Air from *November* to *Midſummer.*

The Plant is in ſo many Gardens, that it may always

Nov. always be had; and the beſt Method of its Propagation is by parting the Roots.

To this Purpoſe let the Gardener wait till the Stalks which flowered, are decayed; that is the Period of Reſt for the Roots; and they are then to be parted without Danger. Let this be done with a careful Hand, and the principal Root very lightly touched.

Fill as many Pots with the Compoſt juſt deſcribed, as there are Roots for planting, and place each carefully in the middle of the Pot. Cover it two Inches with the ſame Soil, and give the Earth a gentle Watering.

Set the Pots in a warm ſhady Place, and once in four Days very lightly ſprinkle the Mould till they begin to ſhoot. When the Stalks have a few Inches height, let the Waterings be larger and more frequent. Nov.

In the Beginning of *September* they muſt be ſet among the Exotics; and at the Approach of cold Nights removed into the Green-houſe.

Thus they will flouriſh perfectly well, and beginning to flower about this Seaſon, will continue thro' the whole Winter. In *March* the flowering Seaſon will be over; and the Stalks will ſoon after begin to decay; but they riſe again in all their Vigour in the Beginning of *Auguſt*, and flower as in the preceding Seaſon.

4. YELLOW CLUSTER FLOWERED ALOE.

Pl. XII. Fig. 4. The Aloes are in general handſome Plants, and they ſucceed one another very happily at this Seaſon; when Flowers in general are ſcarce.

This is an elegant Kind; and deſerves the more Regard, as it differs from the Generality, particularly in the Colour of the Flowers, as well as in their Diſpoſition: the Leaves alſo have their Singularity.

Its Characters are ſo ſtrongly impreſſed, that moſt who have written of it, have called it by the Name of Aloe.

LINNÆUS diſtinguiſhes the Species by the Title, *Aloe floribus ſeſſilibus reflexis imbricatis priſmaticis:* Aloe with priſmatick Flowers hanging downward over one another, and having no Foot-ſtalks.

The Root is thick and yellow, and ſends out numerous, large, and very long Fibres.

The Leaves riſe in a great Cluſter, and they are extreamly long and narrow; of a triangular Shape, and of a deep green Colour; they are involved together at the Baſes, and with good Culture, will riſe to five Feet in Height.

The Stalk riſes ſingly in the Centre; and is round, thick, upright, and five Foot high. Upon the Top of this are placed the Flowers.

They ſtand in a vaſt Cluſter, one laid above another; and they are large, and of a very deep ſtrong yellow. They are ſingly, of the Length and Thickneſs of a Child's Finger.

This is all greatly to the Advantage of the Plant: but its Scent is diſagreeable; it is not however ſtrong, or offenſive, unleſs purpoſely ſmelt.

The Flowers, whoſe Form is truly that of the Aloe Kind, ſhould have prevented Error, in Reſpect of the Genus, but they have not done ſo univerſally.

This is the Plant which BREYNIUS has called *Iris uvaria flore luteo:* led to it by BODÆUS in his Commentaries upon THEOPHRASTUS, who tho' he has figured the Plant, yet led by its Leaves inſtead of regarding the Flowers, has called it by a like Name.

Our Student when he ſees the Flower hollow, and placed naked on the Stalk, divided at the Edge into ſix Segments, and containing as many Filaments, can no more miſtake its Genus than its Claſs: he will know it to be an Aloe, one of the *Hexandria*; and by its ſingle Style, which is very obvious, as ſoon as the Flower is torn open, he will know it belongs alſo to the *Monogynia*.

Culture of the YELLOW CLUSTERED ALOE.

The Native Country of this Aloe, is the *Cape of Good Hope*, and it there lives only in damp rich Soils. The black Mould, which is the common Soil of the ſwampy Places, in that Country, is its natural Ground.

This is very different from the Soil in which the Aloes in general delight, and it ſhews alſo, that more frequent and large Waterings are required for this, than for any of the other Species.

This muſt be the Method of bringing the Plant to Perfection here: and this ſhews the great Error of thoſe Gardeners, who following the Inſtructions of Writers, no more capable than themſelves, of tracing in the Volumes of the Learned, the true Account of the Species, or learning their diſtinct Nature, order one Soil for all the Kinds: as if, becauſe the Name of a Plant were Aloe, it therefore demanded a particular Degree of Dryneſs, or of Moiſture, in the Soil ſupporting it.

According to theſe Inſtructions, here propoſed from Nature, let this Aloe have a peculiar Compoſt, altogether different from the others, and thus prepared.

Juſt pare away the Turf in a wet rich Meadow, and take of the fine black Mould that lies under it four Buſhels, add to this of Marle one Buſhel; of Wood-pile Earth three Pecks, and one Peck of Cow-dung.

Let this be laid together, two Months, or more, turning it once in a Fortnight, and it will then be ready for Service.

In this the Plants are to be propagated by Means of thoſe Suckers, or Off-ſets, which they yield in abundance, where they thrive tolerably. The Time for planting theſe, is the Middle of *July*.

They muſt be taken off with great Care from the Mother Plant, and laid two Days upon a Shelf, in a cool airy Place to harden. After this one muſt be planted in each Pot in this Compoſt, and that with all poſſible Care.

When they are all planted, let the Pots have a very gentle Watering, and ſet them in a warm ſhady Place. Here let them ſtand another Fortnight without any farther Care.

Then bring them to a Bark-bed, which has a very moderate Heat, and ſet in the Pots two Thirds of their Height in the Bark: draw a Mat over the Glaſs, and thus let them ſtand all Day.

In the Middle of the next Day, raiſe the Glaſſes a little, by a notched Stick.

In this Manner let them be kept in the Bed three Weeks, and then by Degrees more and more hardened; till at length the Glaſſes are taken quite off in the Middle of a warm Day.

After this, they may be removed into the Greenhouſe, and from thence into the Stove.

This is the Method of bringing them to their greateſt Perfection.

They muſt be frequently watered in the Stove; the Water having ſtood there four and twenty Hours, to bring it to the Temper of the Place.

Under this Management, they will grow a great deal during the Winter; and in Spring will be in a fine Forwardneſs towards flowering. They are ſingular in the higheſt Degree, even in the Leaf, and a great Ornament to the Place.

5. *Crimſon Papilionaceous Flowered* GERANIUM.

Pl. XII. Fig. 5. The Variety of *African* Geraniums, is equal to their Beauty. This is a Species, ſingular and elegant in the higheſt Degree; and worth a Place in the beſt Collection.

The Leaves are not leſs peculiar in their Form than the Flowers; and from theſe moſt have named the Plant. HERMAN calls it, *Geranium anemones folio.* And COMMELINE, *Geranium myrhidis folio.* LINNÆUS forming a more certain Diſtinction, by taking in alſo the Structure of the Flower, names it *Geranium calycibus monophillis corollis papilionaceis vexillo dipetalo foliis bipinnatis.* Geranium with bipinnated Leaves, with the Flower-Cup of one Leaf, and the Flower papilinaceous, with two Leaves in the Vexillum.

The Root is tuberous and brown; round, and of the Shape and Bigneſs of a Turnep.

The Leaves that riſe firſt from it, are large, and very beautifully divided; they have long, hairy, rediſh Foot-ſtalks, and they are cut into numerous narrow Segments: their Colour is an elegant pale green.

In the Centre of a large Tuft of theſe, riſes the Stalk, which ſupports the Flowers; it is united with ſome of the inner Ones at its Baſe; but all the Way from thence it is naked; it is purpliſh at the Bottom, of a whitiſh green toward the Top, and hairy.

The Flowers terminate this in a Kind of Umbell, and they are very large, and of an elegant pale Crimſon: they ſtand on long and ſlender Foot-ſtalks, a Part of their Petals hanging down, and the Remainder ſtanding erect, each Flower has the Aſpect of the papilionaceous Kind.

In the Centre appears the Tops of the Style, which is alſo of a fine Crimſon, and adds not a little to the Elegance of the Flower.

The Seed-veſſels which follow, reſemble the Beak of a Crane, as in all the other Geraniums.

The more diſtinctly the Flower is examined the more it pleaſes. The Cup in which it ſtands, is formed of a ſingle Leaf, and divided into five Segments. The Body of the Flower is compoſed of five Petals, and of theſe, three are turned up in the ſame Manner we have mentioned, and the other two hang down. This gives the Air of Singularity to the Flower.

We deſcribe it in the moſt perfect State, mentioning the Colour to be throughout Crimſon, for it is frequently white; but even in that Caſe it is not without its Beauty; for at the Part where the lower Petals droop, it is ſtained with two large and elegant Spots of Crimſon.

Some Authors have conſidered it in this State, as a diſtinct Species; but it is no more than a Variety of the other, as LINNÆUS has more accurately determined.

To what Claſs the Geraniums are to be refer'd, we have explained at large before.

The Student who ſees their Filaments united into one Body at the Bottom, and counts the Number to be ten, will not fail to know the Plant belongs to the *Monodelphia Decandria*.

Culture of the PAPILIONACEOUS GERANIUM.

The Plant is a Native of *Africa*, where it ſpreads its Leaves over the dry Earth, by the Sides of Foreſts, in a pleaſing Luxuriancy.

The Soil in theſe Places is a light ſandy Loam, enriched by the rotted Branches of the Trees. This points out naturally the Compoſt that is to be given it in our Gardens.

For this Purpoſe, bring in a Barrow of light ſandy Earth from under the Turf in a common Paſture; mix with it a Buſhel of Earth, from under an old Wood-pile, and add a Peck of the coarſeſt Sand.

This reſembles its natural Soil, and in this I have raiſed the Plant to its moſt perfect Splendour.

Let this be prepared ſeveral Months before

1 Three rib'd Ceanothus.

2 Corymbous great Selago.

3 Yellow Indian Sida.

4 Canary Bell flower.

5 Yellow Cluster flower'd Aloe.

6 Crimson papilionaceous flower'd Geranium.

it is uſed, and turned frequently, that no Weeds may grow upon it; and that it may have all the Advantage of the Sun, Air and Rains.

There are two Methods of propagating it; the one by parting the Roots, and the other by Sowing.

The Way by Off-ſets from the Root is eaſieſt, and moſt expeditious; but this is a Kind which produces thoſe Off-ſets ſlowly. It ripens its Seeds very well with us, and therefore that is the beſt Way of procuring its Encreaſe.

Early in Spring let theſe be ſown upon a Hot-Bed, ſcattering a few at a Diſtance, one from another; and covering them a quarter of an Inch with fine Mould.

When the Plants appear, pull up the Weakeſt, leaving only about half a Dozen, and theſe at a good Diſtance.

Thus they may ſtand till they have ſome little Height; then they muſt be removed into another Hot-bed; and after ſome Time in that, tranſplanted into Pots of the Compoſt.

Theſe Pots muſt be ſet in a Hot-bed Frame, and the new planted Geraniums watered carefully. In this Place, they muſt be ſhaded, till well rooted: and then hardened to the Air by Degrees.

When the Summer is advanced, they muſt be ſet out among the Exoticks, and at the Approach Winter taken into the Green-houſe.

Some of theſe ſeedling Plants I have uſually found to bear Crimſon, and others, white Flowers; but even the White, by Means of their Spots are very beautiful. There is no Way to be ſure of the Colour of Flowers, but by planting Off-ſets from the Roots.

Theſe when they are to be had good, deſerve Preference. They muſt be planted ſingly, in Pots of the ſame Compoſt, and after one gentle Watering, ſet in a ſhady Place.

When they begin to ſhoot, they muſt be brought where there is a more free Air, and ſome Sun, and from that Time watered gently once in two Days.

They will quickly come forward under this Management; and they are then to be brought out among the Exoticks, for the Remainder of Summer; and treated afterwards in all Reſpects as the others.

CHAP. II.

The Management of the Flower-Garden, for the Middle of November.

STILL there are ſome few Plants, which brave the Cold, and keep their Flowers upon them in the open Air; theſe are extremely to be cheriſhed, tho' their Kind be but indifferent; and where there is leſs Value in the Plant, the Gardener may be more free in that Management, which will continue it Flowering.

The Care of the Plants in the Management of many who call themſelves good Gardeners, robs the Ground of half its Beauty. We proceed upon a different Plan: we ſhall direct the Means of raiſing a Supply with little Trouble; and we ſhall never fail to put our Reader in Mind of doing it at a proper Time: therefore we ſhall direct him to be more indulgent to the Eye, in theſe late Seaſons, even at the Hazard of his Roots; where that is neceſſary.

Our Plan is to render a Garden at all Times the moſt agreeable that it can be made; and where there is a Supply ready for the next Year, we ſhall be more free with thoſe flowering Plants which decorate the preſent: This we ſhall explain in the Treatment we are about to direct for them.

The Seaſon of Walking is not yet over, therefore let the Gravel be well rolled: it needs it more now, than at moſt other Times, for this will prevent the Wet from penetrating it, and the Froſts from mouldering it.

Let a good firm dry Walk be thus prepared, and let the next Care be to provide, or to preſerve a pleaſing Aſpect in the Borders.

Where Roots are planted that do not yet appear, nothing but Cleanlineſs can give Satisfaction.

Once in a Week let the Ground be lightly raked over theſe, till the Time of their ſhooting: it gives an Air of Culture, and is always pleaſing.

Next let him look over the Plants which continue yet with ſome Flowers on them; and examine what are abſolutely paſt it.

Let him begin with the latter, for the Management of them is very eaſy; and all that is to be done, is to cut them down to the Ground; then the Earth is to be raked over them, and a little freſh Mould ſcattered on.

This gives the ſame Aſpect of Care and Culture that we have juſt deſcribed; and has two great Advantages beſide: It deſtroys the very Rudiments of Weeds and Moſs, and it ſtrengthens the Plants for the ſucceeding Summer.

For this Work let him take the mildeſt Days: there will be Froſts occaſionally, and they will mellow the Surface of the Ground. It will break eaſier under the Rake, and fall better about the Roots, than at any other Time.

This Care being over, let him look round upon thoſe Plants, which yet have ſome Flowers on them.

He will find theſe naturally divided into two Kinds.

Nov.

Kinds. The firſt conſiſting of ſmall Plants, whoſe Flower-ſtems riſe ſingle, and naked from the Roots, and when cut, do not ſhoot out again; the others, thoſe which have tall and branched Stems, and which naturally ſhoot out anew, wherever they are cut off.

This Property principally diſtinguiſhes them for the preſent Purpoſe, and their Treatment muſt be thus.

The Polyanthus may ſtand as an Inſtance of the firſt Kind: It continues now flowering; and it ſhould be encouraged to do ſo, by breaking the Surface of the Earth about it; but not to any Depth; and by taking off the dead Leaves, drawing ſome fine Mould high above the Head of the Root, and by frequent gentle Waterings.

Theſe Waterings muſt be given in a Morning, and if any Shelter can be added by a Reed-hedge, or by a few Furze-buſhes, without deforming the Proſpect, let that be given.

Some Narciſſus's whoſe Roots were not removed out of the Ground at the uſual Seaſon, will now appear in Flower; theſe ſhould be treated in the ſame Manner exactly as the Polyanthus; and the ſame Care continued to all ſuch Kinds.

The Gardener will ſay, that breaking the Ground, will give the Froſt Way to the Roots, and Water will alſo encreaſe its Power.

We have told him this already, and therefore he may be ſure we are not ignorant of it.

Some will be deſtroyed by the ſevere Froſts that follow; and ſo let them: We do not direct him to treat the moſt valuable Roots in this Manner; but ſuch as may be ſpared: and this Management will keep them flowering, with double their natural Luſtre at the preſent Seaſon.

Of the other Kind, the taller Plants which grow where they are cut, he will have ſeveral that yet ſhew ſome Flowers.

Some of golden Rods and hardy Aſters, perennial Sun-flowers and the like, will hold up their Heads, tho' weakly, againſt the Froſts, and flower in its Defiance.

Theſe let him encourage, and force to it as much as poſſible: if he weaken, or if he deſtroy the Roots, they may be ſupplied from the Seminary, and he will now make them render a moſt acceptable Service.

Let him go the Round of theſe, and treat them in this Manner; let him ſhorten and reduce the Number of their Branches; let him cut away all thoſe Parts, which ſupport Flowers paſt their Perfection; and leave all on that have Buds or Flowers new opened.

Having thus taken off all thoſe Heads in which Seeds were ripening, which exhauſt the Root more than all, and reduced the whole Plant to perhaps one half its original Quantity, the Nouriſhment which the Root is able to ſupply at this Seaſon, having leſs to ſupport, will feed that the better.

Nov.

Next let him give the Sources of more Nouriſhment, thus; let him ſtir the Ground about the Root, but not too deep; and let him lay round the Baſe of the Stem, ſome rotten Dung, and cover it with a thin Scattering of freſh Mould.

This done, let him give the Plants every Morning a gentle Watering, and what Shelter he conveniently can againſt the bleak Winds, and Night-froſts.

This Management will prodnce a Kind of Spring in Winter. It will weaken all the Roots indeed, and will deſtroy ſome of them, but theſe are eaſily ſupplied.

The Cuſtom I have uſed to prevent any Diſadvantage to the Ground from this Practice has been this.

When I have marked what particular Plants would be fitteſt for this Service, I have planted near them a good Root of the ſame Kind, at the Time of cleaning them for Winter flowering.

Then in the ſucceeding Spring, I have taken up the Roots I had forced in Winter; and ſet them in the Nurſery to recruit, and left the others for the enſuing Summer.

Beſide theſe Plants, there is a third Return of Beauty, for the preſent dead Seaſon; this is in thoſe hardy Shrubs, which though in general Natives of other Climates, endure the Winter in the Air with us.

Theſe are to be treated in ſome Degree as the Flowers we have named, but with leſs Freedom; becauſe there is more Trouble in ſupplying their Places, if loſt, by Reaſon of their ſlower Growth.

Therefore let the Earth remain quiet about their Roots, and give them no Water.

Theſe are the Things which would expoſe them to Froſts, wherefore let them be omitted; but in all other Reſpects let them be treated juſt as the other Plants; let the Gardener look over them, and reduce their ſtragling Branches; let him take off all thoſe Shoots, ſupporting Flowers that are paſt their Luſtre, and preparing for ſeeding; and let him encourage by this Means all thoſe which are buding for new Flowers.

The Muſk Roſe will thus be kept flowering ſome Time longer, and the Cytiſus and Colutæa, and all which thrive in our open Air.

Theſe and whatever other Shrubs the Garden affords, are to be treated in this Manner, ſo long as they ſhew any Proſpect of more Flowers; and they will thus be made to afford a great deal of Beauty at this Seaſon, and will not be in the leaſt damaged by the Practice for the ſucceeding Summer.

SECTION II.

The Buſineſs of the SEMINARY, for the Middle of November.

LITTLE is to be done in the Seminary this Week; but let the Gardener ſee he do that little perfectly. Two Articles will require his Care; the new-planted Trees, and the Beds of ſeedling bulbous Flowers. The Danger is the ſame which threatens both: this is the Froſt penetrating into the Ground when they are planted; and it muſt be prevented in both, by covering the Surface: but in a various Manner.

The Practice of Gardeners I have not found to ſucceed ſo well as they pretend; and I have ſeen more new-planted Trees and Shrubs loſt in Nurſeries, than they care to own. My Method has been more ſucceſsful; and it is this:

The Earth about the Roots of theſe, having been clean'd in the common Manner, bring in a large Quantity of old Pea-ſtalks, or Bean-ſtalks, ſtrew them thick between the young Trees, and tread them down: let the whole Surface be handſomely cover'd with them; and when they are well ſettled, drive in ſome long and ſtrong Pegs in different Places, ſo as not to interfere with the Roots, to keep them better down, and throw on a large Quantity of Brick-bats or Pebbles.

Theſe will preſs the Haulm down cloſe, which is a very great Article; and it will thus rot in Part, and the beſt of its Subſtance will be waſh'd into the Earth as Manure.

In the Spring, theſe Stones and Bricks are to be taken off: the Refuſe of the Stalks is to be rak'd away; and the reſt of their Subſtance, which remains on the Surface, to be dug in.

With Reſpect to the Beds of Seedling Flowers, which were not ready for Removal the laſt Seaſon, they muſt be firſt of all clear'd of Weeds by Hand: then taking the Advantage of a mild Day, the Surface muſt be rak'd over, but not to any great Depth; and the whole being thus clean'd and levell'd, ſome very rich and well-mellow'd Dung, from a Melon-Bed, muſt be ſcattered thinly over the Whole.

This will waſh in by Degrees in the Spring, by Means of the Rains; and in the mean Time it will ſerve the excellent Purpoſe of defending the Plants from the Froſts of Winter.

This is an Article of great Concern, and liable to many Errors: we ſhall therefore take the preſent Opportunity of letting the Gardener fully into the Practice.

Dung is not to be us'd in the Compoſt for the Beds in which theſe Plants are to be ſet for flowering; for in that Caſe the Soil will be too rich, and will make them puſh out Leaves in Abundance, and tall Stalks, with poor Flowers: but this is a very different Period.

The Roots are now ſmall, they require to be nouriſh'd; and 'tis no Matter for their preſent Produce. Therefore a little well-rotted Dung, waſh'd gradually into the Ground, will ſwell them in the Spring, and do them Service that Way, after it has preſerv'd them during Winter.

The common Director adviſes ſtrewing ſome rotten Tan over theſe Beds at the preſent Seaſon; but we have found, from repeated Experience, this is pernicious to the Roots.

Indeed that Author, in ſome Degree, contradicts himſelf in this Article; for altho' he orders Tan to be thus ſcatter'd over the Beds of ſeedling bulbous Flowers, in his Calendar [*], he acknowledges in his Dictionary, that "preparing Flower-Beds with rotten Tan, is very pernicious to the Roots [†];" declaring, from Experience, that in Reſpect of *Ranunculus's* and *Anemonies*, which are tuberous-rooted, he has loſt more than half by this Practice, and ſpoil'd the reſt.

It is true, that Tan will greatly injure and often deſtroy both bulbous and tuberous Roots, when they are at their full Strength; and we have found by Experience what Reaſon ſo plainly declares alſo, that it will, even in leſs Quantities, be prejudicial to them in the Seed-Beds: but that a little rotten Dung thus us'd never hurts them.

With this Caution let the Gardener proceed, and he will preſerve and enrich his Roots. No Froſt will reach them, and the Earth will be better ſuited to feed them.

[*] *Gardener's Calender*, p. 313.

[†] *Gardener's Dict.* Art. TAN.

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SECTION III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

Fruits which remain yet in Seaſon.

INTO this Liſt, declining daily, and out of the Reach of all preſent Recruit, we muſt with Care take every Thing that good Management can preſerve for it.

The Service of the Table in a Deſert, is one very eſſential Purpoſe of a Garden; and nothing more demands, or better returns the Care of the Gardener, than his Supply of it.

The Pears and Apples which we have directed to be laid upon the Floor and Shelves of the Fruitery, after due Sweating, come firſt into Uſe. From theſe he is to pick a Variety of Kinds, as they ripen with lying; and at the ſame Time that he takes out theſe for Uſe, let him with the utmoſt Care remove any that are decaying.

In the ſame Manner let him ſelect from among his Grapes, Medlars and other Fruits, thoſe which are moſt liable to decay, reſerving ſuch as are pack'd up for longer keeping, in their Places.

With the Aſſiſtance of theſe, and the occaſional Addition of Services, and the different Species of the Nut-kind, he may ſtill keep up a Variety, and even Plenty, in this Reſpect: and the Pine-Apple, which comes now in ſufficient Quantity from the Stove, will be always ready to crown the Entertainment.

* * *

CHAP. II.

The Care and Management of the Fruit-Garden and Orchard, for this Week.

THE Buſineſs of Pruning we ſuppoſe done in the common Kinds; but there yet remain ſome Articles for a ſtrict Conſideration.

The Fig is not like other Trees, for it is tenderer than moſt; and it requires, at this Seaſon, a particular Management.

The Fruit-Branches, for the ſucceeding Year, are very likely to be deſtroy'd by Froſt, if that be not now prevented by a proper Care. This will depend upon two Articles; the Defence of the Wall is the univerſal one, and the other is the Addition of a proper Shelter if requir'd by the peculiar Tenderneſs of the Tree, or by particular Severity of the Weather.

As the Wall is the firſt and moſt natural Defence, let Care be taken that the Trees have its Aſſiſtance in full Perfection. To this Purpoſe, let no Branch be left looſe, for that will, in ſome Degree, rob it of the natural Advantage.

Let every one be train'd cloſe to the Wall, and nail'd down by ſeveral Pieces. Let each be brought as cloſe as can be done without forcing; but let as much Care be taken not to bruiſe, as not to leave them looſe, for one will be as great a Damage to them as the other.

The Fig does not require ſo much pruning as many other Fruit-Trees; but they err who allow of very little.

The great Care muſt be to prune in ſuch Manner, as always to have a Supply of young Branches, for theſe are the only ones that bear; and for this Purpoſe, it muſt be an univerſal Rule not to ſhorten any of the young ones at this Seaſon.

The great Article therefore to be regarded at this Time, is the cutting out uſeleſs Wood. All the old Wood is uſeleſs: therefore wherever it can be ſpar'd, that is, where it does not ſupport uſeful Branches, let it be cut away. This muſt be done with Boldneſs and Freedom; for Room muſt be made for the bearing Branches, and that can only be procur'd by clearing away the others.

The Wood of the laſt two Years is what almoſt entirely produces the Fruit; therefore the Gardener will not be at a Loſs to know what he is to cut out, and what to ſpare. This being done, and the young Branches nail'd with the Care we have directed, all is done that is requir'd for the preſent Seaſon.

What Pruning is needful in the Way of ſhortening the Branches, is the Buſineſs of a different Seaſon, and we ſhall deliver it in due Time.

This Care being now taken, the Gardener is to go over the young Branches with a careful Hand, and pick off all the late Fruit. This would only rot by being left on, and the Conſequence would be its wetting the Branches, which the firſt Froſt afterwards would from that Cauſe deſtroy.

After this, if the Froſts ſet in ſevere, let a good Quantity of old Pea-ſtraw be hung upon the Tree, ſo thick as to ſhelter the young Wood, but not ſo cloſe as to ſhut out the Air.

This done, theſe Trees may be left to Nature; and they will, by this Practice, not only be preſerv'd during Winter, but will puſh out their young Fruit earlier in Spring, which will therefore have a much better Chance of ripening in Time.

Let the Gardener's next Care, in Reſpect of Fruit, be to clear, refreſh, and enrich his Strawberry Beds.

The Beginning of this Work muſt be by Weeding, and this can only be done by Hand. Let him look over while the Labourer performs this; and where he ſees the Plants ſtand too cloſe and crowded, let him pull up here and there one; always the weakeſt.

When they are thus clear'd and thinn'd, the ſecond Article is, to take off the Strings or Runners; theſe muſt be all cut from the Roots; and the dead Leaves at the ſame Time being taken away, the Gardener will ſee the right Condition of his Beds.

The third Article which naturally follows theſe, is refreſhing the Roots. This is to be done by new Soil, which I have found, by Experience, to be no way ſo good as when mix'd of mellow Dung and freſh Earth.

Therefore let two Barrows of rich Mould, cut from under the Turf in a good Paſture, be mix'd with one Barrow of old Dung: or let a larger Quantity of this be made where the Plantation is greater.

When this is perfectly mix'd, let it be ſcattered all over the Beds half an Inch deep, and left in that Condition for the Rain to waſh in its Virtue: No more Care is required in this Buſineſs than to ſee that no Plant of the Strawberries be buried at the Heart, ſo as to make it rot.

Laſt of all let the Alleys between the Beds be dug up a full Spit deep, and the Mould well broken.

Vaſt Quantities of Roots are ſent from the Strawberry Plants into this Part, and the Ends of them are by this Means trimmed off, and there is a freſh Soil for them to ſhoot new Fibres.

Theſe never fail to be produced from Roots of all Kinds, when they are cut in this Manner, and when there is a Mould thus broken to receive them.

It is thus the digging about the Roots of Trees aſſiſts them; and this is the Source of that vaſt Fertility, riſing from the new Method of Culture in Fields, called the Horſe-hoeing Huſbandry.

The Hoe-Plough cuts the Soil while the Plants are growing, as digging up the Alleys in this Inſtance, and the ſame Strength of the Growth follows from both. The Strawberry never fails to produce after this, not only more Fruit, but larger.

This done, let the Gardener look to his Standard Apple-Trees, whether thoſe formed into Dwarfs in the Garden, or ſuch as are planted in the Orchard: Both are the Sources of every valuable Fruit for the Table, and they deſerve all the Care which they demand at this Seaſon.

We have ſpoke of the Miſchief ariſing in Flower-Borders, from their being over-run with Moſs, the ſame Accident happens particularly to Apple-Trees, and the Reaſon is the ſame: The Species of Moſs is different, but there is no other Variation.

This muſt be cleared off, and the preſent Seaſon is the beſt Time of the Year for doing it. The right Method is to clean it off it by means of a long Knife with a blunt Edge.

This may be uſed in the way of Scraping, and the Branches may be thoroughly cleaned, without being in any Part wounded. When this is done, let the whole Tree be examined for whatever elſe is amiſs; if two Branches croſs, or croud one another at the Extremities, let one of them be cut off or thinned in that Part.

If in any Part there be looſe Pieces of decayed Bark, let them be taken away and the Place cleaned wiped; Inſects breed there, which afterwards deſtroy the Fruit.

Wherever there is a Piece of the Bark rotten, let it be clean cut away to the Quick, for it will never recover, and if left on it will ſpread the Miſchief.

Wherever a large Branch is cut off, the Place muſt be ſo contrived that Wet cannot lodge upon it. If cut with a Saw, it muſt be pared even with a Chiſſel, and made ſloping downwards.

Very old Boughs ſhould always be taken from Apple-Trees, for the Fruit which grows upon them, is ſmaller than naturally it ſhould be. And there will never be any Difficulty in getting a good Supply of proper Branches; and bearing Wood in their Place.

Shoots ſuited to that Purpoſe are to be trained by Bandages into a proper horizontal Growth; and where there are none let a ſmall Piece of Wood be cut out with a Chiſſel.

This preſerving of young and proper Shoots for bearing, and taking off the old, is the great Art of producing fine Fruit from old Trees; for that never happens from any other Management.

When the Trees themſelves are thus put in good Condition, the next Care is to be beſtowed upon the Ground.

Let it be well weeded, and as often as Occaſion requires enriched with Manure or Tillage; or beſt of all with both.

Docks and the deep-rooting Thiſtles are very pernicious in Orchards. The fewer Weeds of any kind are left there the better; but thoſe which penetrate far into the Ground are detrimental in the higheſt Degree.

It is an Error to let Turf cover the Surface of the Ground in an Orchard; but when the Plantation is made in the old Way, with the Trees cloſe, there is no Remedy.

The beſt Way of Planting, is ſuch a Diſtance that a Plough can come between; and in that Caſe the Trees thrives every Way better; the breaking of the Ground ſerves as Manure without its Rankneſs, and the Sun and Air have free Paſſage, which is very eſſential to the good Taſte and well ripening of Fruit.

The beſt Manure for an Orchard is a Mixture of two Parts Dung, and one Part Coal Soot. Let this be blended carefully, and ſpread all over the Ground between the Trees, not piled up in Heaps juſt about their Stems, according to the old Practice.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THE Products named in our laſt Catalogue continue in Seaſon, and the Winter advances too quick for much Addition; we ſhall therefore devote this Section to the Care and Management of the Ground.

Froſts grow ſevere, and the Gardener muſt keep muſt keep a watchful Eye to defend his Products from them.

To this Purpoſe let him look round the Ground in general, and ſee that all his Reed-Fences are ſecure: If they in any Place are rotten, let him tie them up to firm Stakes; and if there be the leaſt Damage in any Part, let it be thoroughly repaired.

Let him look round the Ground for its outer Fences, if they be of Pales or Hedges; and if there be the leaſt Breach that had eſcaped his Eye before, or that has been broken ſince his laſt Review of them, let it be made up with the moſt perfect Care.

The cold Winds that come with Froſt, nip and cut off more than the Froſts themſelves; and nothing is ſo eſſential as perfectly guarding againſt them.

The Plantations will thus be well ſecured from the Violence of the outward Air, and that within the Compaſs of the Ground being thus open to what Sun there comes, and ſhut from all Indraughts and thorough Paſſage, will be warmer greatly than the general Temperature in open Places.

Hot Beds muſt be kept up in a moderate Temper for raiſing young Salleting, and ſuch other Articles as can be ſupplied at this Time, or forwarded for early Spring; and there muſt be a great deal of Care to keep them in Order.

Their Heat is apt to decline, and the Plants are ſubject to grow mouldy in them. The firſt is the common Accident in Rains; and the other in Froſts and Fogs.

For the firſt, let freſh Dung be at Times piled round the Outſide; and for the other, let the Glaſſes be opened as often as poſſible in the middle of the Day, for the ſingle Circumſtance; what occaſions the Plants moulding is the want of Air.

The common Buſineſs of this Part of the Ground is to be thus performed. And with this the common Labour for the Week would end; but there remains a particular Article to be treated of in this Place. This is the Management of our Beans ſown in August.

For propoſing ſowing them at that Seaſon we have been rudely attacked by an opinionated Perſon; and in our Anſwer to his raſh Objections have ſaid, that at the proper Seaſon he would ſee how we intended to treat them.

This we ſhall now deliver in the Words of that ingenious Gentleman, who firſt propoſed the Method.

S I R, *Gray's-Inn*, *May* 21, 1756.

THE incloſed are my Thoughts on the Probability of raiſing the finer Kinds of Beans earlier than uſual. You'll excuſe my attempting the Sketch of a Journal of the Care that may be neceſſary to produce Succeſs therein; which may ſerve as a Series of Hints to a ſkilful Gardener in every Point: Could the Experiment be made under your Eye, it would then have the faireſt Trial.

The Beans having been planted the laſt Week in *Auguſt*, if the Seaſon prove dry, forward them to Bloſſom before the Winter Froſts ſet in, by moderate Waterings.

Upon the firſt Appearance of Bloſſoming, cut them down within two Inches of the Ground, in dry Weather. Cover the Roots or Stumps with Bell-Glaſſes a little raiſed on the South-Side, or with any other cheaper Contrivance, ſo that the Stumps may receive Air enough, to dry and heal gradually; for Rain, Snow, and Froſt, getting into the Pipes of them during the Winter, would penetrate downwards, ferment and rot the Roots before Spring.

One Bell-glaſs may cover three diſtinct Plants in a Row. If, during an open Winter, any new Shoots put out from the Stumps after their being covered with the Glaſſes, do not totally diſplace them as faſt as they appear, but rather encourage one or two to each Plant to excite the Suction, Circulation, and Increaſe of the Root during the Winter.

When the Winter Froſts ſet in, throw Litter, long Dung, Peaſe-haulm, or old Thatch over and about the Glaſſes; and frequently in moderate Weather ſtirring up the Litter, and giving Air to the Roots and Surface of the Ground about them to prevent Mouldineſs.

I am with great Eſteem and beſt Wiſhes for your Health and Undertaking.

S I R,

Your moſt obedient, humble Servant,

JOHN STEPHENSON.

Such are the Thoughts of this experienced Correſpondent, to whom we have been indebted on more Occaſions than the preſent, and of whom it is but Juſtice to ſay, that he treads in the laudable Steps of the great Dr. HALES, devoting his Studies to public Utility.

The Method which is here laid down at large for the whole Procedure, we ſhall illuſtrate farther, under the ſeveral Articles, when we treat of thoſe Weeks in which they are to be perform'd.

It is here deliver'd entire, that the practical Gardener may, at one View, comprehend what is propos'd; and that the Author of the ill-conſider'd Paper, in which the firſt Notice of the Method was publiſh'd, may learn a proper Reſpect for the Author of it; and remind himſelf to uſe more Modeſty and Candour, when he ſpeaks of Men ſo much above him.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XIII.

For the latter End of *NOVEMBER*.

SECTION I.

FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. LONG-LEAVED PHYLLANTHUS.

Nov. P.XIII. Fig. 1. THE Singularity of this exceeds that of moſt other Plants, and cannot fail to recommend it.

It is a Shrub, Native of *South America*, and ſingular in the Form of its Leaves; but much more ſo in the Diſpoſition of the Flowers, which, diſclaiming the uſual Courſe of Nature, burſt from their Edges.

It has been deſcribed in Terms of Wonder by all the late Botanical Authors. PLUKENET has given it a very inartificial Name, *Filicifolia Hæmionitidi affinis*; moſt others call it Phyllanthus; to this LINNÆUS adds, for the Diſtinction of the Species, *Foliis lanceolatis ſerratis; crenis floriferis. Phyllanthus*, with lanceolate and indented Leaves; the Indentings being the Place of the Flowers.

It riſes with due Care to a Shrub of eight Feet high. The Bark is brown on the Trunk, grey on the Branches; and theſe divide and ſpread wildly and with a fine Irregularity.

The Leaves are numerous, and ſtand in as little Order as the Branches. They are ſeven Inches long, and not half an Inch in Breadth.

They riſe without Foot-ſtalks, and they are ſharp-pointed and indented; they throw themſelves at firſt horizontally from the Branches, and as they acquire the full Bigneſs, frequently turn in a hooked Manner, reſembling Sickles. Their Indentings ſtand at Diſtances; their Colour is a very lively Green: Their Subſtance firm and hard.

Nov. The Flowers are ſmall, but of an elegant and lively Purple, not deep but fleſhy; they ſtand along both Sides of the Leaves in the Indentings, and whether in the Bud or open, give the Plant a very beautiful, as well as ſingular Aſpect. When in the Bud they are of a deeper Purple.

To know the Claſs and Place of this ſtrange Shrub in the LINNÆAN Syſtem, the Student muſt examine more than one Flower. Let him take off two or three Leaves loaded with them, from different Parts of the Plant; and firſt looking into 'em as they ſtand, obſerve their general Difference. He will perceive ſome to have a few Threads and Buttons, and others only the Rudiment of a ſucceeding Fruit.

Theſe two Kinds being found upon the ſame Plant, ſhew that its Claſs is that of the *Monœcia*, the twenty-firſt in the LINNÆAN Syſtem; but let him examine them farther; to know in what Arrangement they ſtand under that general Claſs.

The Buttons which are White upon the Threads in the Male-Flower, appear as ſo many ſnowy Spots on the pale Purple, which is its general Colour: Theſe are three, and that is the Number of the Stamina; the Shrub is therefore one of the *Triandria*, the ſecond Section

Nov. tion of that Claſs.

In the Female-Flowers appears the Rudiment of the Fruit, crowned with a Rim of twelve regular Points: This is the Nectarium of the Flower, whoſe Place is on the Germen. Petals there properly are none; for the fine Purple Part, is but a coloured Cup. It is formed of a ſingle Piece, ſpread out at the Rim and divided into ſix ſmall Segments. The Fruit is a ſmall three cornered Capſule.

We have named the native Country of this Shrub, and that will inform the Gardener in a general Manner of the Degree of Heat requiſite for its Preſervation; the ſecond Article is the proper Soil: in *America* it grows in rich and mellow Land. This therefore muſt be imitated here.

Culture of the PHYLLANTHUS.

In Autumn let the Gardener mix together, one Barrow of rich Mould from under the Turf in a Meadow, half a Barrow of Pond Mud, a Peck of Wood Earth, and the ſame of Marle; and if the Marle cannot be had, a Peck more of the Mud, and two Pounds of Chalk.

Let theſe be well mixed and turned once a Week; then fill proper Boxes with the Compoſition, and bring them into the Stove, where the Plant is preſerved.

Its Branches will eaſily bend down to the Surface of the Mould, when the Boxes are ſupported on a ſmall Treſſel; and let one which will come with little Force be brought down to each Box.

Nov. Let it be ſlit through in two Places with a ſharp Penknife; and twiſt a Piece of Wire juſt above theſe Slits.

Bring it into the Mould, that the wounded Part may be covered three Inches deep; then faſten it down with Pegs or Strings, and covering it up carefully with the Mould, give it a gentle Watering. Repeat this as Occaſion requires; obſerving when the Earth grows dry: And let the Water be always ſuch, as has ſtood four and twenty Hours in the Stove.

In this Manner the Layers will root freely, and the Shoots from them will grow during the Winter in the Stove. About the End of *March* they will be fit to remove.

Then fill as many Pots as there are Layers, with the reſt of the Compoſt which has lain out all Winter: into each Pot place with Care one of the Layers cut from the Mother-Plant, with as much of its own Earth, as will hang about it; give theſe a gentle Watering; and ſet the Pots up to the Edge in a Bark-bed. Shade and water them till well rooted in the Pots, and then by Degrees harden them by admitting free Air.

In the hotteſt Months, they may be ſet out among the Greenhouſe Plants, and they muſt then be managed like the reſt, watering them occaſionally, picking off dead Leaves, and ſtirring the Earth at the Surface from Time to Time.

They will make a very handſome Figure the ſecond Year, and they will flower the fourth. It may alſo be raiſed from Seeds, but that is tedious.

2. VIOLET FLOWERED ÆTHIOPIAN ROELLA.

P. XIII. Fig. 2. In the former Plant, the Situation of the Flowers claimed the Attention of the Curious; and, in this their Beauty. It is not eaſy to conceive any Thing more noble than their full Luſtre, or to name a Plant which more deſerves the Notice of this Age of Curioſity.

Many of the late Writers have named it, and moſt of them with peculiar Praiſe of its Beauty. PLUKENET calls it, *Aculeoſa Mauritanica Ericæ foliis.* COMMELINE and SEBA, name it as a *Campanula*; and ſome others have diſtinguiſhed it under the ſame Title, with various Additions.

LINNÆUS, names it a *Roella*, a Genus diſtinct from the *Campanula*, though allied to it; and adds as a Diſtinction of the Species, *Foliis ciliatis Mucrone recto. Roella* with ſtrait-pointed and ciliated Leaves.

It is a ſhrubby Plant, but of no great Height. The Root is whitiſh, large and divided; and it ſends to a great Diſtance a Number of thick Fibres.

The Stem is woody, and covered with a brown Bark; it divides almoſt from the Ground into innumerable Branches, and forms a wild Buſh of very pleaſing Aſpect.

The Leaves are ſmall, but very ſingular in Form and Conſtruction. They riſe inordinately all over the Branches, and have no Foot-ſtalks; they are oblong, narrow, ſharp-pointed and of a very firm Subſtance. Their Colour is a lively Green, and they are on each Side edged with Rows of fine Hairs, reſembling weak Thorns.

This ſingular Kind of Hairineſs of a Leaf, is what LINNÆUS expreſſes on this and other Occaſions, by the Term ciliated, reſembling Eye-Laſhes.

The Flowers terminate the Branches, and they are large and very beautiful, each formed is of a vaſt ſingle Petal irregularly divided into four, five, or ſix great Segments at the Edge. The Colour of theſe Segments is a deep and glowing Purple, and in the Centre the Flower becomes paler, and almoſt White.

This is the Colouring when the Plant is well managed, but otherwiſe the whole will be of an uniform faint Fleſh-colour, and ſometimes white. In this Caſe, the Plant is robb'd of half its Beauty.

After the Flowers come Seed-veſſels, divided into three Parts, and fill'd with minute Seeds.

To know the Claſs to which this Plant belongs, and ſee for what Reaſon and with what Juſtice LINNÆUS has ſeparated it from the *Campanula*, let the Flower be carefully examined.

Nov. The Cup in which it ſtands, is made of a ſingle Piece, and divided into five ſerrated Segments.

The Body of the Flower is form'd of a ſingle Petal, tubular a little Way at the Baſe, and deeply divided at the Edge; and in its Bottom ſtands a Nectarium, compos'd of five little pointed and convergent Scales. From the Nectarium riſe five Filaments, with long Buttons: in the Midſt of theſe a ſingle Style crown'd with a double Top. After the Flowers come the Seed-veſſels, which are crown'd with the Cups.

The Claſs to which the Plant belongs, the *Pentandria Monogynia*, is very evidently ſeen: and were there no other Mark, the Diviſion of the Stigma, or Top of the Style, would ſufficiently diſtinguiſh it from the *Campanula* Kind.

Culture of the ROELLA.

The beſt Method of propagating this Plant is by Sowing; and the Seeds will never ſucceed ſo well as when brought from *Africa*, its natural Place of Growth.

They muſt be ſown upon a Hot-Bed, early in Spring, and rais'd with the uſual Care, tranſplanting them from one Bed to another, as they gather Strength; and, after three Removals, into Pots.

For their Reception in theſe, a Compoſt muſt be prepar'd at this Seaſon of the Year, or at the lateſt at the Time of Sowing them. It is beſt made thus: Nov.

Mix four Buſhels of rich Earth, from a Paſture, with one Buſhel of Pond-Mud, five Pecks of old Dung from a Melon-Bed, and two Pecks of Sand: let this be well wrought and turn'd together; and when the Plants are of ſuch a Size as to be remov'd from the third Hot-Bed, let them be planted in it in middle-ſiz'd Pots, one Plant in each.

When they are ſet, let them have a gentle Watering, and place the Pots in a Bark-Bed, that has not too much Heat, to promote their free Rooting: after they have been ſhaded and carefully water'd ſome Days, in this Bed, let the Air be admitted by Degrees; and let them thus be hardned, for bearing the open Situation of the Green-houſe Plants in Summer. Let them be plac'd among theſe in the warm Months; and, at the Approach of Autumn, taken into the Green-houſe. There let ſome be plac'd for the Winter; and others in the Stove.

According to the Seaſon and Management, thoſe in the Greenhouſe or Stove, will be the fineſt; but they will all flower in great Profuſion and great Beauty.

3. RIVINA.

P. XIII. Fig. 3. Many Things tend to recommend this Plant to all who are at the Expence of raiſing Exotics: its Leaf, its Fruit, and the free wild Manner of its Growth.

Among the late Writers, moſt have nam'd it, but under different Titles; the Genera of Plants having been ill eſtabliſh'd, till LINNÆUS (that LINNÆUS, whom Men, incapable of reading his Works, preſume to cenſure *) eſtabliſh'd them.

PLUKENET has call'd it a *Solanum*.—TOURNEFORT, a *Solanoides*; and COMMELINE, an *Amaranthus Baccifer*.

LINNÆUS diſtinguiſhing it from all theſe Genera, by certain Characters, which we ſhall deſcribe in the Account of its Flower and Fruit, calls it, after PLUMIER, *Rivina*; adding, by way of Diſtinction, *Humilis racemoſa baccis puniceis*: Low racemous *Rivina*, with ſcarlet Berries. And to this he refers, as a Variety, the taller Kind, whoſe Fruit is of a Violet Purple, deſcrib'd under the ſame general Name by PLUMIER, as a diſtinct Species.

The common Writers call it *Phytolaca*, an Error into which BOERHAAVE led them; and our Gardeners *American* Nightſhade.

The Root is ſpreading, and full of Fibres.

The Stem is ſlender, weak, and edg'd; but it will run to a great Length if ſupported, and will ſpread out in a pleaſing Wildneſs, into a Multitude of ſcattered Branches.

The Rind is of a greyiſh brown toward the Bottom, and paler in the younger Shoots; and the Branches generally ſwell out at the Joints, where the Leaves, and Fruit and Flower-Cluſters riſe.

The Leaves are large and handſome; they are ſupported on ſhort, purpliſh, hairy Foot-ſtalks. They are broad at the Baſe, wav'd at the Edges, and ſharp-pointed. Their Colour is a very bright green; but toward Autumn they uſually grow purpliſh, and they are naturally a little downy: this is ſometimes more, ſometimes leſs, and often ſcarce perceptible.

The Flowers are plac'd in a double Series, on long, ſlender, common Foot-ſtalks. Theſe are what the *Latins* diſtinctly call *Racemi*; and thus the Reader will comprehend the LINNÆAN Term *Racemous*, mention'd in the Name of this Plant.

Each Flower has, on this common Stalk, its little Pedicle; and they are ſmall and inconſiderable: their Colour whitiſh.

The Berries follow, and are of a fine deep red, and often of a Violet Purple. This Change of

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* Doctor LINNÆUS has made this Miſtake. MILLER's *Propoſal*, Col. 4. *Laciniis quinque revolutis, ſumma erecta.* LINNÆUS. —*Cut into five Segments, which turn backward, and are erect at the Top.* MILLER's *Gardeners Dictionary*, Article ALOE. Given as the Tranſlation of LINNÆUS.

Colour riſes from the Culture, and therefore cannot conſtitute a diſtinct Species, any more than a Difference in Size from the ſame Cauſe, or the frivolous Diſtinction of a more or leſs downy Leaf.

The Juice of theſe Berries ſtains with a very glorious Colour, but it is not laſting. If Art could fix it properly for Dyeing, it would become a very valuable Article in that Trade.

The Flower, examined ſtrictly, appears to conſiſt only of a Cup, and the Parts of Fructification. What ſeems of the Body of the Flower is this Cup, which is form'd of a ſingle Piece, divided at the Edge into four Segments, and in Colour white.

Within this Cup, in which there are no Petals, ſtand four ſmall Filaments, diſtinctly crown'd with their ſeparate Buttons. In the Centre of theſe appears a ſingle Style, ſhort, and produc'd from a large and roundiſh Body, the Rudiment of the Fruit.

This, by Degrees, ripens into the perfect Berry, and the Cup remains under it, but changes Form and Colour: it becomes green, and its Segments roll back. In each Berry is contain'd a roundiſh rough Seed.

Plumier, who gave the diſtinct Name *Rivina* to this Genus, judg'd better than thoſe who had annex'd it to the *Solanum* or *Amaranthus*; but 'tis to the Author here celebrated alone, that we owe the proper Eſtabliſhment of the Character.

Plumier has figur'd eight Filaments in the Flower: Nature allows but four; and this would have remov'd the Genus many Claſſes from its proper Place in the Syſtem.

It is one of the *Tetrandria Monogynia* of Linnæus; the fourth Claſs, and its firſt Section.

Culture of the RIVINA.

The Plant is a Native of *Jamaica*, *Barbadoes*, and the *Caribbee Iſlands*; and it there rambles in all its Wildneſs among the Thickets, ſupporting itſelf by the Branches of ſlender Shrubs.

The Soil in which it is moſt frequently found, is a light Loam, enrich'd by the decay'd Leaves and rotten Branches that fall from thoſe Trees and Shrubs under whoſe Shelter it thrives. This points out its proper Culture.

The Seeds carefully taken out of its Berries, will freely grow; and they are beſt from the Place where it is native, and are eaſily obtain'd thence; but they will grow if taken from the Berries here.

At this Seaſon, in which there is Leiſure enough for ſuch Purpoſes, let the Gardener mix together a Load of light Hazle Loam, cut from under the Turf in a good Paſture, and half a Load of Earth from under an old Wood-Pile. This is an Earth we have often recommended, and with great Support from Reaſon and Experience.

It is a kind of Virgin Soil, having born no Vegetable many Years, and 'tis enrich'd by the rotted Wood. It anſwers all the Purpoſes of Willow Earth, but better.

This Mixture being prepar'd, let it lie all Winter, ſometimes turning it; and in the ſucceeding Spring it will be fit for Uſe.

The Quantity we have nam'd, is more than will be wanted for this Plant; but it will ſerve for others which naturally require the ſame kind of Soil. It is a Compoſt unknown to the common Gardeners; but ſuperior to moſt they uſe.

In this Point Experience has directed us, from a long Trial, of the Mixture in which the ſeveral Plants beſt thrive; and we ſhall, from that Experience, direct, ſo far as we have try'd, or certain Judgment reaches, a peculiar Mixture for the ſeveral Kinds we name.

Theſe particular Compoſts the Gardener may uſe for each, or at his Pleaſure, that which is moſt like the Kind deſcrib'd out of the Number he has prepar'd for others.

After this Choice in the Matter of Compoſt, the next Care is the gathering the Seeds, and preparing them for Sowing.

I have found that, of the Seeds ripen'd in *England*, thoſe which are taken from the Berries, in *November*, are what ſucceed beſt. Let this be therefore the Time of gathering them.

Pick off the ripeſt Berries from a flouriſhing Plant; and taking out the Seeds, dry them carefully upon a Sheet of ſpungy Paper, in an airy Place. After they are thoroughly dry, tye them up in a double Paper Bag, and lay them by till Spring.

Early in that Seaſon ſcatter them upon a good Hot-Bed, and cover them half an Inch deep with Mould; they will riſe with the common Care beſtow'd on Hot-Bed Plants, and when they have ſome little Height, the weakeſt may be pull'd up, that only a few thriving Plants remain.

After a Week more, theſe muſt be tranſplanted into another Hot-Bed; and when they have ſtood about three Weeks in that, they muſt be planted in Pots.

Let theſe be fill'd half up with the Compoſt, and then the Plants ſet in upright, one in each Pot, and ſecur'd by carefully pouring in more Mould. When they are well ſettled, let them have a gentle Watering, with Water that has ſtood four and twenty Hours in the Stove, and let the Pots be ſet up to the Rim in a moderate Bark-Bed.

Let them be ſhaded carefully till they have taken Root; and at Times water'd. After this let the Glaſſes be lightly rais'd; and when they are thus very well eſtabliſh'd, let them be remov'd at once into the Stove.

There they muſt be treated as the other Plants, giving them, during Summer, as much Air as they can bear; and they will grow very faſt.

They are beautiful while there is no more than the Leaf to recommend them, for that is well ſhap'd and well colour'd; and the Growth and ſpreading of the Plants under a good Gardener's Hand, is very pleaſing. In Autumn it will flower, and ſoon after the Fruit will ripen.

This hangs at the preſent Seaſon in innumerable Cluſters of ſcarlet or of purple Berries, decorating the Stove; and will continue in the ſame Beauty all the Winter.

Nov.

Let not the Reader, in this or other Inſtances of a like Nature, ſuppoſe, when we recommend the placing Plants in a Stove, we mean they will not live out of that Heat.

The common *Rivina* will keep alive many Years in open Ground: and tho' the whole Plant periſh to the Surface in Winter, the next Spring ſends new Shoots from the Root. But this Way it has not half its natural Beauty; nor will a Green-houſe keep it in Perfection.

We mention thoſe Methods by which all the Plants we name will grow to their higheſt Perfection. Thoſe who have Stoves will not fail thus to bring them in all the Beauty we deſcribe: For ſuch as do not enter into that expenſive Part of Gardening, 'tis eaſy to raiſe this, and many more of the Stove-Plants, in common Hot-Beds; and 'tis worth the Trouble. They muſt be planted where there is moſt Sun and Shelter, and then take their Chance: a Part will be loſt inevitably; and of thoſe which remain, few will retain their full and natural Luſtre: but in whatſoever Degree of Vigour they live, they will be an Article of Ornament and Variety to the Garden.

Some there are Natives of warm Climates, which will ſucceed much better this Way than in the Stove itſelf; becauſe, if able to endure the Seaſon, they have there more Air.

4. CANDY CHRYSANTHEMUM.

P.XIII. Fig. 4.

This, tho' a Native of a much warmer Climate, lives freely in the open Ground with us; and, whether in the double or the ſingle State, is beautiful.

Faſhion prevails for the admitting only double Flowers into Gardens; but tho' the common Writers direct tearing up the ſingle, and throwing them away, we ſhall ſhew their Uſe, and adviſe a better Practice.

This is an old eſtabliſh'd Plant in our Gardens; the earlier as well as later Writers name it, and all under its proper Generical Title; too ſtrongly impreſs'd upon the Flower to be miſtaken or overlook'd by any.

Clusius figur'd it under the Name *Chryſanthemum Creticum*; *Crete* being the Place whence it was firſt receiv'd: and Morison and Ray, and our *Engliſh* Writers, have taken the ſame Title.

C. Bauhine calls it *Chryſanthemum foliis Matricariæ*; and Linnæus, always diſtinct, expreſſive, and perfect in his Characters of Species in their Names, *Chryſanthemum foliis pinnatifidis inciſis extrorſum latioribus: Chryſanthemum*, with Leaves divided in the pinnate Manner, and cut, and broader at the outer Part. This Character riſes as the Species, with Certainty even without the Aſſiſtance of the Flower.

The Root is long, white, and furniſh'd with numerous thick Fibres.

The Stalk is round, firm, upright, of a pale green, broke into many Branches, and lightly hollow in the Centre.

The Leaves ſtand without Order in great Numbers, and they are very beautiful. Their Colour is a greyiſh Green; and they are divided in a moſt elegant Manner into numerous ſerrated Segments.

The Flowers, in vaſt Number, terminate the Branches, and riſe on ſmall leafy Stalks from the Boſom of the Leaves: they are of a deep yellow when they firſt open, which by Degrees grows paler; and they have in the Centre a yellow Diſk.

This is the natural and ſimple State of the Flower; and the Plant, ſuffer'd to grow luxuriant in its wild Freedom, and cover'd with theſe, has a very fine and elegant Aſpect.

Culture will make them double in various Forms, and quill the Leaves, as in the beſt Flowers of *African* Marygolds. In theſe States Authors (and tho' we bluſh to ſay it, ſome of Credit) have deſcrib'd the Plant as if of various Species. Hence the *Chryſanthemum flore luteo pleno*; and *Chryſanthemum Creticum petalis florum fiſtuloſis*.

Theſe Errors are tranſcrib'd with faithful Diligence into the *Gardener's Dictionary*; and 'tis for redreſſing them, and telling the Student a double and a ſingle Flower of the ſame Kind, make the Plant differ as a Variety only, not as a Species, that the great Linnæus ſtands cenſur'd and accus'd of Errors by that Author.

Let our Reader remember on all Occaſions, that adding by good Culture to the Number of Petals in a Flower, does not change the Species of the Plant: that no Culture can do this; that Nature is too fix'd and certain in her Works; and Man's Art bounded within narrow Limits.

This Truth let him eſtabliſh, in Contempt of little Writers; and having confirm'd in his Mind what theſe double Flowers and quill'd Flowers of this, the *African* Marygold, and others are, let him not reject, but conſider in what Manner to improve, and when and how to uſe them.

This is the Buſineſs of the Gardener, inferior to the Study of Botany as much as Art to Science; yet far from deſerving Neglect.

Let him be careful that theſe Varieties, thus plac'd in a higher Rank than they demand by Writers, do not impoſe upon his Underſtanding; and then let him indulge his Fancy in their Culture. This is the Path of Science; clear in itſelf, and only made perplex'd by fooliſh Guides.

Culture of the Candy Chrysanthemum.

It is an Annual, and to be rais'd from Seeds; for when they are perfected Nature has done her Buſineſs, and the Root dies.

In its native Countries it is found conſtantly in a looſe, mellow, and rich Soil: our Garden-Mould anſwers very well to this Purpoſe; and no Compoſt need be prepar'd for it.

Let good Seeds be ſav'd from quill'd or double

Flowers, of the beſt Kinds in our Gardens. Let them be gently harden'd, by ſpreading upon a Shelf in an airy Room; and afterwards put by till Spring.

Early in the Seaſon, let them be ſown upon a good Hot-Bed; and brought forward with the uſual Care.

Where they riſe very thick, let a few of the weakeſt be pull'd up; and when the reſt by gentle Waterings have been brought to due Strength for removing, let them be tranſplanted to another Hot-Bed.

On this they are to be brought forward by the ſame Care, ſhading and watering gently, till they have taken Root; and afterwards encouraging them by ſome Sun and Air.

From this ſecond they are to be remov'd to a third Hot-Bed, and treated in the ſame Manner as in the former, till they ſhall be well rooted: then they muſt have, by Degrees, more Air; and when they grow ſo as to fill the Frame, they muſt be planted out before they are ſtunted by the Covers.

The Summer will, by this Time, be ſo well advanced, that they may, without Danger, be allow'd the full Air.

Let Holes be open'd for them in proper Parts of the Border, where the Mould is very fine: and let them be carefully brought thither with a large Ball of the Hot-Bed Mould about their Roots.

In each of the Places where one Plant is intended to ſtand for flowering, let two Holes be open'd at a ſmall Diſtance from one another; and one Plant from the Hot-Bed ſet in each.

Let theſe be planted with good Care, and from Time to Time water'd in an Evening.

In a few Weeks they will begin to ſhew their Buds for flowering; and let the Gardener carefully watch their firſt Opening.

The Seeds of double Flowers do not produce all double-flower'd Plants, tho' it is a good Chance there will be many.

Let Proviſion be made at this Time for ſuch as are ſingle, and alſo for one of the two when both appear double; for only one is intended to remain in a Place.

To this Purpoſe, let Holes be open'd at proper Diſtances in ſome of the wildeſt Parts of the Garden, among Thickets, and in the Borders of a Court-Yard; and let ſome Pots be fill'd with the richeſt of the Garden Soil.

When one of the two Plants appears to have ſingle Flowers, let it be carefully taken up, and planted in the Holes open'd for that Purpoſe, in the Places juſt nam'd; and where both are double, let one of them be taken up with the utmoſt Care, and planted in a Pot.

They will now begin to flower, and there will be three diſtinct Setts of Plants, tho' from the ſame Seeds.

Thoſe in the wild Places will grow to a great Bigneſs, and ſpread every Way in a pleaſing Irregularity. Their Flowers will be extremely numerous, and of a fine ſtrong Colour.

In theſe the Botaniſt will trace the Characters of the Plant, for they will be obliterated in the double; and theſe Plants will have a wild Beauty, which to the Eye of a true Taſte, equals at leaſt the beſt of the others.

The ſecond Kind will be thoſe which remain in the Borders: theſe will be large, and very finely cover'd with double Flowers; ſome of the quill'd and others of the plainer Kind.

The third Sort will be thoſe in Pots. Theſe will differ from the others, in that they will be ſmaller; but they will naturally have more and larger Flowers. Theſe may alſo be preſerv'd longer, by being brought into Shelter; and thus will be obtain'd the very fineſt Kinds.

Let the Seeds for a ſucceeding Year, be ſav'd from the fineſt and beſt of theſe, the largeſt Flowers of the quill'd Kind; and there will need no farther Care about them.

Theſe being ſown in Time, in the Spring, will afford a Succeſſion of Flowers at Autumn; and the Return of the Growth will confirm what the firſt ſhew'd, and what we have ſo carefully inculcated, that the ſame Seeds produce ſome ſingle and ſome double Flowers; and of the laſt all the various Kinds: therefore that theſe are all no more than Varieties; the Species continuing unalterably the ſame.

This Courſe of Thought uniting Botany and Gardening, illuſtrates the one Study, while it ennobles the other: Gardening, without that Science, is the Amuſement of a Child; but thus connected with it, becomes itſelf a great Part of a very noble Science, uniting experimental with natural Philoſophy.

5. NARROW-LEAV'D ÆTHIOPIAN CALENDULA.

P. XIII. Fig. 5. We here propoſe to the Student a Plant miſtaken by too many who have written on it; for hitherto the Botaniſt and Gardener have been diſtinct: nor muſt he, who wrote the Dictionary of this Art, ſo long in Reputation, ſuppoſe he did any thing toward uniting the two Characters, when he tranſlated the Miſtakes of TOURNEFORT, and plac'd them at the Head of his Rules for Culture.

The candid Reader will not be offended at our ſo often naming this Perſon with Cenſure: we write for the Improvement of the Art: that Improvement can no Way be made but by the Aſſiſtance of this Science; nor can that be uſefully join'd to it, or the Art brought to its Perfection, while Errors are permitted to give Reputation.

This Plant ſtands as an Inſtance of the Neceſſity; as it has been call'd by various Names; and, in

Conſequence directed to be managed in different Manners; for till the Science is underſtood, the Name directs the Culture: this we have ſhewn in Aloe, and ſhall in others.

Vaillant has called it a *Dimorphotheca*; Boerhaave, a *Caltha*, and Commeline, a *Bellis*; Linnæus, who eſtabliſhed on juſt Characters, the numerous Genera of the Syngeneſious Claſs, calls this a *Calendula*; and Van Royen follows him: He adds by way of Diſtinction of the Species, *Foliis linearibus ſubintegerrimis caule ſubrotundo. Calendula*, with narrow and almoſt undivided Leaves; and with a Stalk nearly naked.

The Deſcription of the Plant will ſhew with how much Juſtice he has uſed theſe nice Diſtinctions.

The Root is fibrous and perennial.

The firſt Leaves are produced in great Number, and form a thick Tuft with a pleaſing Irregularity. They are long and narrow, ſmalleſt at the Baſe, broader at the Point, and of an elegant Green; uſually they are undivided altogether at the Edges, but ſometimes they are waved, and ſometimes a few of them have one or more Indentings.

Among theſe riſe the Foot-ſtalks which ſupport the Flowers; they are round, upright, ſlender, and a Foot in Height, and they are almoſt naked.

Their Colour at the Baſe is Purple, they are Green higher up, and towards the Top whitiſh.

The few Leaves theſe Stalks have on them are towards the Baſe, for upwards they are altogether naked: Theſe reſemble thoſe which riſe immediately from the Root; but they are of a ſomewhat paler Colour.

On the Summit of each Stalk ſtands one Flower; ſo large, the Top generally bends with it. This is naturally elegant, and it becomes yet more ſo by Culture.

It conſiſts of a yellow Diſk, ſurrounded by a Number of oblong and broad Petals thrown wildly about it; and often turning their Backs inward from a waved Manner of growing.

In the State of Nature theſe Rays are of a Snow White on the Inſide, and of a fine Crimſon on the Back; but Culture will throw the Crimſon in Streaks over the Inſide of the Petals, or ſtain them throughout with a fleſhy Purple.

Sometimes alſo they will riſe more numerous; the natural Diſk will be obliterated, and thus the Flower be double.

We have before explained the Conſtruction of the Flower in the Calendula, and referred it to its Claſs; and we ſhall here only refreſh the Students Memory by a ſhort Recapitulation.

In the Diſk are many ſhort and tubular Flowers, and on the Verge ſeveral long and flat ones; in thoſe of the Centre, which are the only perfect Flowers, there ſtand five Filaments, whoſe Buttons coaleſce and form a Cylinder.

This ſhews the Plant is one of the Syngeneſia. In the flat Floſcules on the Verge are only the Female Parts, the Rudiment of the Fruit with its Style; and theſe being impregnated, as well as the Rudiment in the external Series of the Diſk itſelf by the Floſcules in the Centre. The Subdiviſion to which it belongs, is that of the *Polygamia neceſſaria*. The various Ways of Impregnation appear neceſſary, becauſe the central Flowers never bring their Seeds to Perfection.

The Plant laſt deſcribed here, *Chryſanthemum*, is of the ſame Claſs; and we have therefore, to prevent Repetition, reſerved the mentioning it to this Place, where it will ſtand illuſtrated by the other.

The Floſcules in that Flower, are tubular in the central Part of the Diſk, and flat at the Rim; but there the central Floſcules ripen their own Seeds, as well as impregnate thoſe of the Verge.

The Buttons on the Filaments coaleſce in the ſame Manner as in the *Calendula*, therefore it is of the ſame Claſs; but the ripening of the Seeds in the flat Flowers of the Verge, which have no male Parts of their own, by Means of the Farina from the others, being not neceſſary to the Propagation of the Plant, that falls under another Subdiviſion, the *Polygamia Superflua*.

In both theſe, and in all others, the ſingle Flowers muſt be examined, for the Parts on which the Characters of the Claſs are founded; for in the double ones, they are nearly obliterated by the Profuſion of Petals in the Place of their Growth.

Culture of this Calendula.

The Plant is a Native of *Æthiopia*, and there lives in mellow and rich Soils; therefore to give it the true Culture here, it ſhould have a light fine Mould; and the Heat of the Stove: It will live with leſs, but it will thrive much better in this.

The Seeds are beſt obtained from the Place of Growth, if there be Opportunity; but if not it will riſe very well from ſuch as are ripened here.

It is beſt propagated this Way firſt that the Plants with the handſomeſt Flowers may be ſelected: But afterwards it will bear very well to be encreaſed by Roots.

Early in Spring, let ſome of theſe Seeds be ſown in a common Hot-bed: When the Plants riſe, let them be thinned to a due Diſtance; and here let them ſtand a Month, duely watering them.

At the End of that Time, prepare as many Pots as you chuſe to preſerve Plants. Fill theſe with fine Garden Mould, mixed freſh for the Purpoſe, with about one fourth Part Wood-pile Earth.

Set the Plants carefully in theſe Pots; and when you have fixed the Earth about their Roots, and drawn it regularly to the Heads, ſet them up to the Rim in a Bark-bed.

Water them with Water that has ſtood in the Stove a Day and Night, and ſhade them with Mats till they are well-rooted. Then harden them by Degrees to the Air; and in the hotteſt Seaſon ſet them out among the Green-houſe Plants.

At the Approach of Winter remove them into the Stove, and they will begin to flower ſoon after. If the Flowers are cut off when they fade, without letting them ſtand to ſeed, new Stalks will continually ſhoot, and a Succeſſion of them appear throughout the Winter.

When the Flowers appear, it will be eaſy to ſeparate the indifferent from the fineſt Plants; let theſe laſt alone be retained in the Stove, and after this, let new Sets be annually obtained by parting the Roots.

6. PURPLE AFRICAN SHRUB-MALLOW.

P.XIII. Fig. 6. The Mallow kind is very numerous, and there are few belonging to it, but may claim a Place in our Collections either for Singularity or Beauty.

This has ſome Claim on both Accounts, and deſerves to be received into any Collection.

The Characters of the Genus are ſo thoroughly expreſſed in its Flower, that none has called it by any but the proper Name *Malva.*

LINNÆUS adds to diſtinguiſh the Species, *Foliis ſubcordatis laciniatis glabris, caule arboreſcente.* The Mallow with ſmooth, jagged and ſomewhat heart-faſhioned Leaves. Others have called it *Malva Groſſulariæ folio*; and our Gardeners thence the Gooſberry Mallow.

It is a Shrub of regular and handſome Growth, with large and graceful Leaves, and with very ſhewey Flowers.

The Root is woody, ſpreading and full of Fibres.

The Stem is firm, thick, brown, and a little hairy.

The Branches are numerous, and the Leaves on theſe ſtand frequent: They have long brown Foot-ſtalks; and they are broad, waved, and indented at the Edges, and of a greyiſh Green.

The Flowers riſe from the Boſoms of the Leaves; and grace not only the Top of the Plant, but in a Manner the whole. They are large and of an elegant bright Red with Purple Bottoms.

We have acquainted the Student already with the general Diſtinctions of the Plants of this Kind, by which they are referred to the *Monadelphous* Tribe; and they are in none ſtronger, than in this Flower.

When examined carefully, it will be found compoſed of five Petals, which are united at their Baſes: It ſtands in a double Cup, the outer one conſiſting of three Leaves, and the inner of one divided at the End into five Segments.

In its Centre ſtand numerous Filaments, free and looſe at their Tops, but at the Bottom united into a Cylinder.

This ſhews the Claſs the *Monadelphia*; and the great Number of the Filaments declares it to be of the Section, called from that Circumſtance, *Polyandria.*

The Fruit ſucceeding each Flower, is compoſed of numerous Cells, arranged in an orbicular flatted Form round a columnal Receptacle; each containing one Seed.

Culture of the PURPLE SHRUB MALLOW.

The Plant is a Native of *Africa*; and thrives there among Rocks where there is little Mould, and that dry and barren.

This points out its proper Culture. It will need ſome artificial Heat; and will ſucceed beſt potted, and in a Soil not too rich.

Let a Compoſt be made for it, of a Barrow of Earth from a Common, with a Buſhel of Pond Mud, and a Peck of Sand.

Mix theſe at the preſent Seaſon.

Early in Spring let ſome good Seeds be ſown in a Hot-bed. The Plants will come up freely, and they are to be from this tranſplanted into another.

When they have acquired ſome Strength in the ſecond Bed, they muſt be removed into Pots of a middling Size, filled with this Compoſt; and theſe, when the Plants are ſettled in them with a gentle Watering, are to be ſet in a Bark-bed, burying the Pots half-way in the Tan.

Let them be ſhaded at firſt, and afterwards by Degrees hardened a little to the Air: When the Glaſſes have been removed once or twice in the middle of the Day, let the Pots be taken out of the Tan and ſet among the Exoticks, which at that Seaſon enjoy the free Air.

There let them ſtand the Summer, and in the Autumn be removed with the reſt into the Shelter of the Green-houſe. They will flower the ſecond, if not the firſt Year.

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CHAP. II.

The Care and Management of the Flower-Garden, for this Week.

FROSTS generally ſet in ſo ſharp at this Time, that unleſs there come the Chance of a milder Day, little is to be done, or little enjoyed in the Garden.

There will be always ſomething to employ a careful Gardener in the worſt Weather, and we ſhall direct him to make the beſt Uſe both of ſuch, and of the more favourable.

1 *Long Leav'd Phyllanthus.*

2 *Violet flower'd Ethiopian Roella*

3 *Rivina*

4 *Candy Chrysanthemum*

5 *Narrow Leav'd Ethiopian Calendula*

6 *Purple African Shrub Mallow*

Nov.

We have directed the making a Variety of Compoſts, ſome ſuited to peculiar Flowers or Plants; but others that may ſerve for ſeveral Kinds.

That Mixture which ſerves one Plant, whoſe original Place of Growth is in a fine rich Mould, will ſerve another naturally found in the ſame Soil; and ſo of all the reſt.

It is therefore we have directed the making moſt of theſe Compoſts in large Quantities: They are needful for the particular Plant on whoſe Account they were named; and the Gardener is to obſerve this plain and conſtant Rule in their Uſe.

October and *November* are very good Times for preparing theſe; and he has Time for it, becauſe leſs hurried with the common Buſineſs of a Garden at that Seaſon.

The beſt Place for laying theſe, is ſome open Spot on the outſide of the Garden; no Matter how near, for they are not offenſive. If he have followed our Directions, he has already ſeveral Heaps of them, and will have more.

Though what we have here named, might ſerve moſt Plants, we ſhall add to them occaſionally in treating of thoſe we name hereafter, what Mixtures we have ſeverally found beſt ſuit them.

At this Time let him go the round of thoſe he has, and mark them for Diſtinction.

It is natural he ſhould before have ſtuck a Stick in each, or ſome other ſuch Help to Memory: But ſomething more ſhould be now done. They are to lie yet ſeveral Months. And a Miſtake would be of bad Conſequence.

Let him now cut as many thick and ſtout Pegs as there are Heaps, and marking them by Notches, drive them into the Ground; one at the Edge of each Heap; and keep an Account in Writing of what Kind they are, and for what particular Plant intended; as alſo what for others they may ſerve.

This done let him now dig up every one of them: The Froſt is not yet ſo fixed moſt Years, as to harden theſe Heaps too much for the Entrance of his Tools; and if at any Time it ſhould, he muſt defer it longer.

Let him not judge by this particular Year what will be the Courſe of all; nor try our Directions by the Teſt of the particular Weeks in which they are publiſhed: They are not written for this one Year in particular, but for the Service of all others; and they take in the ſeveral Inſtances, not as they may chance to occur one Year, but as they moſt generally happen.

Nov.

In digging up theſe Heaps of Compoſt, which will always be a needful Employment about this Time, let him remember it is his Buſineſs to break all Clods; to mix all the Parts very well, and to lay the whole up when he has done, in a high Ridge.

Then let him give it a good moderate Watering, and leave it to the ſucceeding Froſts. They will affect it the more for this Wet; and it is what he deſires. Nothing mellows a Compoſt more.

This Work is to be repeated once in three Weeks, or at the utmoſt once a Month during the whole Winter; and by this Means all the Heaps will be well blended, and ready for ſcreening in Spring.

This done, if the Weather be any thing mild, let him look to ſuch Parts of the Garden, as are planted in a modern Taſte, with Clumps of Shrubs, or any other, where there are Shrubs or ſmall Trees.

Let him firſt go through the Ground, to prune and ſet right theſe in any Part where it may have been omitted at an earlier Seaſon; or where ſome Accident may have rendered it needful now.

The careful Gardener will find ſomething always to be done, to perfect Things in theſe Plantations.

When the Shrubs are ſet right, let him clear the Ground, raking off the Rubbiſh, and cutting down the decayed Stalks of Plants.

This done, let him go to work as in the vacant Flower Borders; let him dig up the Ground between one Shrub and another, leaving the Flower Roots placed between unhurt, and when he has well broke the Earth, let him take off their dead Leaves, draw ſome Mould about their Roots, and then rake all level.

This will give a Cleanneſs and a Look of Culture: the digging of the Ground will be like adding Manure; and if there be any more Shrubs tender than the reſt, they may be defended as we have directed for the new-planted Ones in a preceding Number.

The Leaves of the Plants interſperſed will now make an agreeable Appearance, and all will have that Air of Freſhneſs and Life, which never fails to riſe from any regular Culture.

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SECT. II.

The Buſineſs of the SEMINARY, for the preſent Week.

NOTHING can be now added to the Plantations in the Seminary; therefore all the Gardener has to do, is to take Care of thoſe he has ſown and planted already.

Let him place Hoops over all his Beds of tender and young Plants, and have Mats or Cloths ready to draw over them in the worſt Weather. They muſt be defended by this Method, not only againſt the ſevereſt Froſts, but the heavieſt Rains; which to many of the Kinds would be as prejudicial.

Let him next go the Round of his new planted Trees; and examine their Stakes, and ſee how the Stuff lies about their Roots, which we have directed to be ſcattered there, for covering of them.

Let him rock the Stakes a little with his Hand; for he may be ſure the Wind will do it: And obſerve whether they bend in their Subſtance, or ſtir in the Ground: If it be the latter they muſt be driven in farther.

If in any Part the Haulm or other Matter, covering the Ground between lie thin, let him take in more; and if any Part of it be looſe, let him lay on more Weight, or drive in more Pegs for ſecuring it.

When all is ſafe there, let him ſee to his Seed-beds of the larger Kind.

If the Earth cracks dangerouſly, let him ſcatter on a little more Mould, and over it ſome light Covering; and let him keep his Traps for Vermin baited.

The Severity of the Seaſon ſends theſe Devourers out in more Hunger than at other Times; and if they find the Way to one of the Seed-beds they will make great Havock.

It is eaſy to ſee by the Traps, and by their Traces, whether any have found their Way thither; and if it be ſo, no Diligence ſhould be omitted to deſtroy them.

Every Day theſe Traps ſhould be new baited, and from Day to Day the Conſequences watched; till there appear no more Marks of them.

We are in general Enemies to Dung in the Nurſery; but there are ſome particular Purpoſes which we ſhall mention hereafter, wherein it may be uſeful; for ſuch let a particular Spot be now ſet a-part, and the Dung brought in.

This muſt not be new or rank: What comes from an old Melon-bed, is fitter than any other for the Purpoſe.

Let it be brought in this Week, and ſcattered thick upon the alloted Piece of Ground, which ſhould be firſt lightly broke on this Surface. This done, let the Dung lie on the whole Winter; and let the Rains of Spring waſh it into the Ground.

After this being dug in, there will be all the Advantage from it which can poſſibly be obtained from Manure.

SECT. III.

POMONA, or, the Fruit-Garden.

CHAP. I.

The Method of preſerving Pears and Apples in Baſkets.

THE moſt unexperienced would ſmile, ſhould we attempt at this Seaſon to add to the Catalogue of thoſe Fruits, which may be ſupplied from the Store-room.

All that can be done, is to take Care of what are there; to take up ſuch for Service firſt, as will come ſooneſt to Decay if left; and to look from Time to Time over the others, to ſee they remain in Order.

We have directed the fineſt Kinds to be packed up in Jars; and upon their being ſafely faſtened down, will depend their Preſervation. If in any Part the Roſin has flown, or there appears a Crack from Accident, let ſome freſh Roſin, with a very ſmall Addition of Bees-wax, half an Ounce to a Pound, be poured on hot.

The keeping them from the Air is all the Security of thoſe Fruits; and therefore they muſt never be opened till wanted, and when a Jar is opened, they muſt be uſed in a little Time.

Some freſh Straw ſhould be now and then ſcattered over thoſe which lie on Shelves or on the Floor; and the Froſt fenced out by keeping the Windows cloſe ſhut.

It will now be a proper Time for putting up ſome of the beſt Pears, that lie upon the Floors and Shelves, in Baſkets; and alſo ſome of the finer Kinds of Apples: For theſe will make a Supply, at a Time when thoſe left upon the Floor are gone: And the Jars need not be opened till the lateſt Part of the Seaſon.

Pears in particular, keep very well in Baſkets with Straw about them; and nothing could have put the Method out of Faſhion, but the unartful Manner in which our Gardeners performed it.

We learned it from the *French*, who preſerve moſt of their fine Pears this Way. But whereas they baſket them after ſweating and lying on the Floor: Our People, for ſo their Inſtructors adviſe them, baſket them at once from the Heap.

The Fact is this: Pears will keep ſeveral Months in Baſkets with Straw, provided they are all perfectly ſound when put into them; but if there be the leaſt Tendency to Taint or Rottenneſs in any one of the Parcel, it will deſtroy the whole.

Now thoſe who take Pears from the Heap in which they are laid at Gathering, immediately into the Baſket, cannot be ſure of their being all Sound; but in this Method we are about to direct, there can be no Miſtake, nor have I ever known even a ſingle Baſket fail.

This is the Method to be obſerved: We have directed the Gardener already to pile up his Fruit in a Heap; and when the proper Sweating is over, to ſpread a good Part of it on the Floor and Shelves of the Fruitery.

It will now have lain ſome Weeks, and it is to be baſketted for longer keeping. Let ſome deep Baſkets be prepar'd, and ſet on a Kitchen-Dreſſer all Day, that they may be thoroughly dry and not heated; and let a good Quantity of Wheat-Straw lie there among them, to dry perfectly in the ſame Manner.

From Time to Time there will have appear'd ſome tainted Fruit, which we have directed to be taken away as ſoon as ſeen. There appear'd no Mark of Rottenneſs in theſe when they were wip'd from the Heap; therefore they would, in the common Way of Baſketing, have been put up with the others; and many of them would have rotted there, and tainted all the reſt.

Now all that were diſpos'd moſt to decay, have been ſeparated; and therefore picking the fineſt and ſoundeſt of ſuch as remain, there is almoſt a Certainty of their keeping.

Let the Baſkets be lin'd at the Bottom and Sides with ſome of the Wheat-Straw; and thus prepar'd brought into the Fruitery.

Let the beſt of the Pears be pick'd off from the Floor and Shelves, and one by one wip'd and laid carefully into the Baſkets.

When they are fill'd, cover the Pears well with more of the Straw; and then faſten down the Baſkets.

Tye it up by a String in the Fruitery, and thus proceed with the whole Number.

The Temperature of the Air being duly preſerv'd in this Room, by ſhutting the Windows in Froſt and Fog, and opening them (whatever Ignorance or Obſtinacy may ſay againſt it) in mild dry Days, the Fruit will keep a long Time.

All bad or decaying Fruit that ſhall appear after this, in the Room, muſt be carefully taken out, for it will infect the Air; and after this there will be no Danger.

Let the Gardener however go in once in two Days, during the Winter, to ſee all keeps as it ſhould; and he will perceive by the Smell whether there be any thing amiſs.

If he ſuſpect Rottenneſs or Mouldyneſs, let him never reſt till he has found out the Cauſe, and remov'd it. He need not unpack the Baſkets in this Search; the Fault is rarely in them: indeed ſcarce ever, if he have beſtow'd due Care in picking the Fruit for them; or if it be, his Smell will diſcover in which, and he will need unpack no other.

In this Caſe he ſhould lay out the good Pears for preſent Uſe, not pack them up again when he has thrown out that which has occaſioned the Damage: for it is ſcarce to be conceiv'd how ſlight a Degree of Contagion will ſpread itſelf thro' the Whole. Thus we direct the Gardener, on all theſe Occaſions, to ſort and ſeparate his Fruit according to the Degree of Goodneſs.

Theſe on the Floor, from which he is to fill the Baſkets, are but a ſecond Kind in Value; for the Prime of his Gatherings are in the Jars.

Even theſe may be divided into three Kinds; a better, a middling, and a more indifferent: and it will be very proper to do it, at the Time of Baſketing; in this Manner:

The finer being taken up for that Purpoſe, the inferior Kind will be left upon the Floor, to be eaten firſt. Of the fine ones taken up for Baſketing, all will not be alike; and it will therefore be eaſy to divide them into a firſt and ſecond Sort. The firſt or fineſt need not be many, and they may be preſerved with yet greater Care in the Baſkets.

There is a kind of very thick coarſe Paper; it is reddiſh in Colour, and it comes from *Holland*; the Apothecaries uſe it for Filtering.

Let ſome of this be dry'd in the ſame Manner as the Baſkets and Straw; and let theſe fineſt Pears, when they have been carefully wip'd with a Flannel, be wrap'd up, one by one, in half Sheets of this Paper, if of the largeſt Kinds; or for the uſual Size a Sheet cut length-wiſe into three, is a proper Quantity. In this the Body of the Pear is to be wrap'd, and it muſt be brought cloſe, and ty'd gently with a double Thread at the ſmall End.

When they are thus paper'd, let them be laid in a Baſket, lin'd at the Bottom and Sides with Straw, and cover'd with more.

A Mark ſhould be put upon theſe particular Baſkets, that the Gardener may know where to find them on any Occaſion. They will be preſerv'd very perfectly, and always in fine Order.

CHAP. II.

The Management of Fruit-Trees for this Seaſon.

A Few Words may compriſe all that can be neceſſary to be done under this Article for the preſent Week. Our Gardener has, before this Time, planted wherever Trees were wanted; and having been warn'd of the Power which Froſts have over Trees rock'd in the Ground by Winds, he has ſtak'd ſuch as ſtand free, and nail'd thoſe to the Wall, which are planted for that Purpoſe.

We have only to remind him now to go the Round among them, and ſee all that he made ſecure remains ſo. Let him examine if no Stake is looſe, nor any Nail has flown; and let him ſcatter a little Haulm, or ſome other Covering upon the Earth, about the Bottom of the Stems.

If any thing have been omitted of what we have directed in the preceding Weeks, let it be done, or omitted in this, according to the Weather. If that be froſty, all the Expectation of Advantage is at an End for the Seaſon: and what has not been done when it ſhould have been, muſt be let alone till Spring.

SECT. IV.

CHLORIS, or the KITCHEN-GARDEN.

WE can add nothing this Week to the Catalogues we have given in the preceding, of Products from this uſeful Part of the Ground which remain in Seaſon; for it is not Time for any to come in. The whole of our Attention muſt be therefore directed to the Management of the Ground; and that will conſiſt more in defending from Injuries what there is upon it at preſent, than in adding to the Number of the Crops.

What we have ſaid of the Fruit-Garden, is, in general, true alſo of this Part; That the two great Seaſons of Planting, are the Autumn and the Spring: the Autumnal Time is over, and the Spring long to come. But there are yet ſome few Things which may occaſionally be done, and theſe we ſhall not omit to lay before the practical Reader.

If the Weather be ſevere, and the Ground too hard for working, let the careful Gardener take his Opportunity of preparing for a more favourſon.

Where the Ground will want a Refreſhment of Manure, let him now carry it in, and throw it, not in Heaps, as ſome idly do; but ſpread it over the whole Surface of that Part of the Ground for which it is wanted. By this Means it will be more affected by the Froſt; which will anſwer an excellent Purpoſe in taking off the Rankneſs of it, and preventing the bad Taſte it otherwiſe gives to the Products.

Let him, within Doors, look over his Seeds which will be requir'd in Spring, and perfectly clean and make them ready for uſing at that Seaſon.

Let him look over his Tools, and repair and put them in good Order, that when the Weather permits him to work, he may do it without Hindrance.

From Time to Time let him look over the ſeveral Products that are in Danger from Froſt, and repeat and continue all the Means we have directed for their Preſervation.

If the Weather be milder, let him ſow Carrots in ſome warm Part of the Ground, to take their Chance; and let him open Drills for Peaſe; and plant ſome more Beans to come in, if the Froſts ſhould ſpare them, in Succeſſion, after thoſe we have before directed to be put into the Ground.

No large Piece ſhould be allotted to theſe Plantations, for they are only made to take their Chance, which is uncertain; and in their beſt Succeſs they make but a very ſmall Part of the Proviſion under this Article.

Nothing will demand more Care, at this Seaſon, than our *Auguſt* Beans: and all new Propoſals ſhould be allow'd the faireſt Trial.

Since the Publication of our laſt Number, we have been favour'd by Colonel *Stevenſon* with ſome farther Particulars relating to their Management, which we ſhall deliver in his own Words.

Grays Inn, Nov. 5, 1756.

SIR,

I Find by what Mr. *Oſborne* has communicated to me, you are engaged in a defenſive War with the all-ſufficient Mr. *Millar*; whoſe greateſt Merit was to have wrote on this Subject before you did; and whoſe great Fault is to arrogate Perfection therein, by oppoſing any farther Improvement from others.

As the Battle of the Beans muſt be fought, I ſhould be ſorry to have involved you in it, without contributing all in my Power to its Succeſs. Therefore what I would farther chiefly guard againſt, is, the Admiſſion of the cold, moiſt, and froſty Air of Winter into the Pipes of the Stalk after Amputation.

To prevent this, I would adviſe they be all ſtop'd with ſmall Plugs of tough Clay, well temper'd with a gentle Salt-Water; and that the Stalks of all ſuch as derive from the Seed, planted from the Middle of *Auguſt* to the Middle of *September*, be, when preparing to bloſſom, cut off about Mid-way of the Stalk, ſo as to leave ſome Leaves, if not ſome Side Branches or late collateral Shoots from the Root; to encourage a moderate Continuation of the Attraction of Sap from the Root.

Theſe collateral Cyons from the Roots (which are very frequent) need not be lopped, till there is an apparent Preparation in them for bloſſoming, but then the Knife ſhould gradually prevent their too great Exhauſtion from the Parent Root. The whole Matter is to keep Life on foot till Spring, after the Roots have been well eſtabliſhed and arrived to near their Size for propagating their Species, which they certainly are when preparing to bloſſom.

I think the Rows may be guarded againſt the ſuperabundant Wet and Cold of Winter, by previouſly digging out between them a Trench of one Spit or more deep, according to the Soil and Situation. But all theſe Conſiderations I muſt ſubmit to your Judgment. The Succeſs may depend much on Experience, and what Degrees of Severity the Plant will really bear; which I believe has never yet been ſufficiently explored.

I am, with great Reſpect,

Sir, Your moſt humble Servant,

J. STEVENSON.

EDEN:

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XIV.

For the laſt Week in *NOVEMBER.*

SECTION I.

FLORA, *or* *the* PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants yet in their Beauty.

1. The POLYANTHOUS PRIMROSE.

Nov.

P. XIV. Fig. 1.

WE propoſe here to the Gardener's Care a Plant as univerſally known as any that can be brought into a Garden: but thoſe Things which are moſt familiarly known, are not always beſt underſtood: we hope to give him ſome Information even on this common Head.

It is known every where under the Name of the *Polyanthus*; but this is an Abbreviation of its proper Title: the true Name is what we have here given it, the *Polyanthous Primroſe*; that is, the many-flower'd Primroſe: in *Latin* it is call'd *Primula foliis ſinuatis rugoſis floribus umbellatis ſpecioſis:* Sinuated rough-leav'd Primroſe, with handſome umbellated Flowers.

The Root is compos'd of numerous thick Fibres.

The Leaves riſe in a Cluſter, and are large, oblong, broad, of a deep green, irregularly wav'd at the Edges, and obtuſe at the End.

In the Centre of theſe riſes the Stalk, which, when the Plant is in Strength and Vigour, is thick, firm, upright, and ten Inches high, and bears at its Top a large Tuft of very beautiful Flowers. Theſe are ſupported on their ſeparate Pedicles, riſing together from the Head of the main Stalk; and they are naturally of a beautiful Crimſon, with an Eye of yellow.

Nov.

When weak or ill manag'd, they will produce a ſingle Flower upon the Stalk, in the Manner of the common Primroſe; and when encourag'd by a right Culture, they will throw out a vaſt Number on each Head; whoſe Variations in Colour will be extreamly pleaſing: and the Beauty in many of them equal that of the Auricula.

The Stalk will alſo, from great Nouriſhment, ſometimes have Films upon it; and the Edges of the Cups of the Flowers will be ſwell'd out by a leafy Addition, ſtain'd with Purple.

Theſe are the ſeveral Appearances of the *Polyanthus,* which ſome have underſtood to be only a Variety from the common Primroſe; rais'd by long Culture: but I have found that when the Plant comes neareſt its plain original Appearance, having a ſingle Flower upon a Stalk, it ſtill differs altogether from the common Primroſe, or any other known Kind.

To know the Claſs of this Plant in the LINNÆAN Syſtem, let the Student examine a Flower; firſt entire, and then torn open.

Conſidering the whole Bunch, he will find that has its common Cup, form'd of ſeveral ſmall Leaves, riſing about the Baſes of the Footſtalks, at the Head of the main Stem.

Beſide this, each Flower has its peculiar Cup;

and this is long, tubular, and mark'd with five Ridges. It is form'd of a ſingle Piece, and divided into five Points at the End.

The Body of the Flower conſiſts of a ſingle Petal. This is tubular at the Baſe; and is terminated on that Part by a ſmall rounded Neck, whence it ſpreads into five broad Segments, which are nip'd or wav'd at their Edges.

The Flower being torn aſunder, there appear the Filaments; theſe are five in Number, and they are contain'd within the tubular Part. On their Tops ſtand pointed Buttons. In the Centre of theſe riſes the Style, which is ſingle, and terminated by a round Top.

The Seed-veſſel is oblong, and the Seeds are ſmall.

The Threads and Style ſhew the Place of the Plant in the LINNÆAN Syſtem: Declaring it one of the *Pentandria Monogynia.*

Culture of the POLYANTHOUS PRIMROSE.

Turkey is the native Country of the *Polyanthous Primroſe*; and it there lives moſt freely in a light rich Soil.

Tho' a Native of a warmer Climate, it very well bears the Cold of ours, ſo that it never need be taken out of the open Ground; and all it requires, by way of Compoſt, is a freſh Earth, a little enrich'd by rotted Wood.

Let a Quantity of good Mould be taken from under the Turf in a dry fertile Paſture, and mix with it one third Part of the Earth from under a Wood-Pile: Let theſe be well blended together, and let them lie in a Heap, to mellow, and receive the Influences of the Rains and Air.

The common Way of Propagation, is, by parting the Roots; but we ſhall direct our Gardener to the better Method of raiſing the Plant from Seeds; allowing only of the parting of the Roots, as Occaſion may require afterwards.

This is the Method to obtain new Varieties; and raiſing them from the fineſt Kinds with all the Advantage of Culture, there will be every Year a Chance of having new and finer Flowers.

To begin properly, let the Gardener truſt no body for his Seeds, but ſave them himſelf.

Let him ſelect ſuch as are ripen'd after the fineſt Flowers, in his own or ſome Friend's Garden, in this Manner:

Let him take ſome Sticks in his Hand; and, examining the *Polyanthus's* when in full Bloom, let them place down a Stick, as a Mark, at each, that has a fine Flower: The Properties for this Purpoſe are the Strength of the Stalk, the Breadth and Number of their Pips, and their high Colour.

Theſe being mark'd, let thoſe which grow among them, and are of a poorer Kind, be taken up and planted in ſome other Place, leſt the Wind ſhould bring the Duſt from their Buttons into theſe finer Flowers.

From Time to Time let theſe be gently water'd: let the Earth be ſtir'd about them; and if Bees are buſy among them, let them be driven away, for they will bring the Duſt from one Flower to another. It is the Subſtance of which they make their Wax; and as they come loaded from a poor Flower, ſome of it may ſcatter into a rich one, and hurt the Seeds.

The Flowering-Plants being thus ſtrengthen'd in their Growth, and all Annoyance kept from them, their Seeds will ripen toward the Beginning of *June.*

The two laſt Weeks in *May* let no Water be given them: it has ſerv'd to ſwell the Seeds; but they now have their due Bigneſs, and ſhould be left to harden.

When they are ripe, the Seed-veſſel will open: this is the Courſe of Nature for their Sowing, and let the Gardener watch it. They do not all ripen together; but he muſt gather them as they come. Once in two Days let him examine them, and carefully cut off ſuch as are ripen'd.

Let him take off theſe, with a Part of the main Stalk, and lay them upon a Shelf in a dry airy Room, firſt covering the Shelf with Paper, and raiſing a Ledge upon the Edge of it, to prevent any of them from falling off, or any of the Seeds that drop from them.

The Seeds muſt not be ſhook out of the Heads, but theſe laid at a Diſtance from one another, to harden. No Way preſerves them in their full Perfection but this; as I have found by repeated Tryal.

'Tis thus Nature manages the Seeds of Plants: they ripen in their Capſules at the due Seaſon, and no more Nouriſhment is, after that, convey'd to them; but they continue there expos'd to the Air, tho' ſhelter'd in a great Meaſure from its Injuries; and are by Degrees harden'd till the Time of ſcattering them for their Growth, which the Winds then effect. This is the Courſe of Nature, and this Art ſhould imitate.

The Seeds ſav'd in *June* will be at the latter End of *December* ready for Sowing.

Chuſe for this Purpoſe a mild open Day; and pour into a large flat Box, made of rough Boards for that Purpoſe, as much of the Compoſt as will fill it within two Inches of the Rim.

Mix up with ſome of the Compoſt, one third Part more of Earth from the Wood-Pile, and one fourth dry'd Cow-Dung rubb'd to Pieces. Blend this very well, and ſpread a Covering of this of half an Inch thick over the Earth in the Box.

This being ready, ſhake the Seeds out of their Capſules, and mix carefully with them as much Wood-aſhes, and as much midling Sand, waſh'd clean.

Mix this well, and then ſcatter it over the Surface of the Earth in the Box.

With the Remainder of the enrich'd Compoſt, mix ſome more Wood-Pile Earth; and having thus made it very light and fine, ſift ſome of it over the Seeds, covering them about a Quarter of an Inch.

Give the Earth no Water; but ſet the Box in ſome Part of the Garden, where it may have the full Benefit of the Sun, and ſome Shelter from very heavy Rains.

Thus let it ſtand during the coldeſt Months; but when the Spring comes on, let it be removed into a Place where it is ſheltered and ſhaded from the Sun, except for the two or three firſt Hours in the Morning.

In this Manner the young Plants will appear, and come ſlowly and gradually forward.

When they are a little grown, they muſt be very gently watered at Times; and about five Months from the Time of Sowing, they will be fit to tranſplant.

Chuſe a ſhady Border, and taking off the Mould four Inches deep, fill its Place with ſome of the Compoſt. In the Evening of a moiſt Day tranſplant them into this Border.

Draw Lines length-way and a-croſs of the Border, at five Inches Diſtance; in the Centre of each Square, made by theſe Lines, open a little Hole, and when all is ready, take up one by one the Plants.

Place them immediately as they are taken up, one in each Hole, and give them a very gentle Watering.

From this Time repeat the Watering every Evening for a Week, and every other, or every third Day afterwards, unleſs in rainy Weather, for two Months.

Once in a Week ſtir and break the Mould between them with a ſmall Trowel; and if a dead Leaf any where appears nip it off.

This Management, clearing the Ground of Weeds, and enriching it by the continual breaking; will with the Help of the Waterings, bring on the Plants in a ſurpriſing Manner.

The firſt Week in *September*, prepare a Border in another Part of the Garden; let it be ſheltered from the South Sun, but open to its Rays in a Morning.

Clear the upper Part of this as the other, to ſix Inches Depth; and fill up with the Remainder of the Compoſt.

Draw Lines length-way and croſs-way of this, as of the other, but at ſeven Inches Diſtance; and in the Centre of each Square, open a Hole. Into theſe remove the Plants; taking them up with a Ball of their own Earth; and carefully watering them till they are rooted.

Stick up a few Furze-buſhes about this Border in *October*, to defend the Plants from the Severity of the Weather, and thus let them ſtand till Spring.

In *March* let the Furzes be taken away, and the Earth broken between Plant and Plant. This clears them from Weeds, and enriches the Ground. In *April* they will flower.

Their Flowers will not be ſo ſtrong this as the ſucceeding Years, but their Kinds and Colours will be diſtinctly ſeen.

There will be many of an inferior Sort; but there will never fail to be alſo a great Number of very fine Ones.

Let a Stick be ſet down by each of theſe as a Mark; and let a Quantity of the ſame Compoſt be made up into a Border, in a ſhady Part of the Garden, where the Morning Sun comes.

This muſt be a Spade deep; for it is the Place where they are to remain.

When the Flowering is over, let the Stalks of theſe fine ones be cut off, that the Roots may not be exhauſted by ripening Seeds while they are ſo young; and in this Border let them be planted, at a Foot Diſtance; taking them up a Week after cutting down the Stalks.

Water them gently till they are well-rooted, and after this they will require no particular Care.

The Earth between them ſhould be now and then broke with a Trowel, and in this Manner they will flower in their full Glory the ſucceeding Spring.

Thus may a Stock of Polyanthus's be raiſed, that will very nearly equal Auricula's.

For their Management afterwards, no more is required than this.

Every *October*, let a freſh Quantity of the Compoſt be prepared as we have directed; and the ſuceeding *Auguſt*, let it be uſed thus.

Let the Border of Polyanthus's be dug out; the Roots carefully taken up and laid in the Shade: And when the Earth is carried away, let the freſh Compoſt be put in its Place.

Then part the Roots, and plant the ſtrongeſt and fineſt in the Border, at the ſame Diſtance as at firſt; the reſt in other Parts of the Garden. This will keep them in their full Beauty, and provide an annual Increaſe.

We ſhall alſo direct the Gardener to continue raiſing Seedlings: Let him ſave the Seed from the choiceſt of theſe Flowers, and manage the young Plants as already directed. By this Means he will continue improving his Flowers; and there is no Saying to what Excellence this Kind may be raiſed by ſuch Methods.

2. FRENCH MARYGOLD.

P. XIV. Fig. 2.

If there be a Plant more common in Gardens than the Polyanthus, it is this: But like all the others, it is capable of being raiſed to a Degree of Beauty not generally known.

We ſhall ſpare no Pains to inform the Reader what may be done to raiſe the Excellence of thoſe Plants, which are the uſual Ornaments of every Garden.

The Name French Marigold may lead the Student into an Error, as to its Place of Growth.

The *French* taught us to raiſe it in Gardens; but it is a Native of *South America*, and of ſome Parts of *Africa*.

The earlier Writers, have called it *Flos Africanus*, and *Tanacetum Africanum*; others *Tagetes*; to which LINNÆUS adds, as a Diſtinction of the Species, *Caule ſubdiviſo diffuſo. Tagetes*, with a ſubdivided and ſpreading Stalk. Others had called it

Tagetes minor, and *Flos Africanus minor*; but the ſpreading of the Stalks in this Kind, and their more erect Growth in the other, called the *African* Marigold, are much better Diſtinction than the Size.

The Root is formed of innumerable Fibres, joined to an oblong central Part. The Stalk is two Foot and a half in Height, weak branched, brown and ſpreading.

The Leaves are large, of a deep Green, and beautifully pinnated; the Pinnæ being placed on ſlender Ribs, and in themſelves narrow, oblong, ſerrated ſharply, and ſharp-pointed.

The Flowers riſing on ſmall Stalks from the Boſoms of the Leaves, and terminating all the Branches, cover the Plant in vaſt Profuſion; and if gathered before they fade, or ſet for Seed, others will ſucceed in greater Number, and the Plant continue flowering in all this Luſtre, till the End of this late Month or longer, if Froſts ſpare the Root.

The Flower is large, and in its natural State ſingle; nor is it then without its Beauty, the Colour being mixed of an extreme dark, purpliſh Brown, and a gold Yellow; but in the Hand of Culture the Variety is endleſs.

It becomes double, ſtriped, and party-coloured: in ſome Plants the Petals in theſe double Flowers roll themſelves into Quills; but this is not to be encouraged.

It is the great Beauty of the *African* or larger Kind, becauſe that has no great Variety of Colouring; but in this the Gardener's Art ſhould be employed to ſtreak and ſtripe the Flowers; and not to twiſt up, but diſplay the Petals flat or waved, to ſhew that ſingular Elegance.

To know the Claſs to which this Plant belongs, one of the ſingle Flowers muſt be examined. In the Linnæan Method, this is determined by the Organs of Fructification, and theſe are in a great Meaſure obliterated in the double.

The Flower thus choſen, will be found placed in a plain and ſimple Cup, formed of one Piece, and only dented in five Parts at the Edge; in this is placed the Flower, compoſed of Floſcules of a different Form.

Thoſe in the Centre are tubular, and thoſe at the Edges flat or ligulated. The tubular are numerous, but the flat are naturally no more than five.

The tubular Floſcules are divided into five Segments at the Rim; and within theſe are placed the Male and Female Parts of Impregnation, defended by a Hairineſs on the Inſide of the Segments.

The flat Floſcules are narrow at the Baſe, but toward the End very broad, and theſe contain only a Female Part, the Rudiment of the ſucceeding Seed.

It is therefore in the tubular Flowers in the Centre, the Student is to ſearch the Characters of the Claſs. Let him lay open one of theſe, and he will find in it five very ſhort Filaments, on which are placed as many Buttons; theſe are oblong, and they coaleſce and form a Kind of Tube.

This is the Character of the nineteenth Claſs in the Linnæan Syſtem, thence called Syngeneſia.

Speaking of this before, we have explained the Diſtinction of the *Polygamia neceſſaria* and *ſuperflua*; the various Manners of Impregnation needed in ſome; and as it appears uſeleſs in others.

In the central Flowers there will be found together with theſe male Parts, the Rudiment of the Fruit with its Style. This ripens its Seed; as well as that in the Female Flower at the Verge; therefore the Plant is one of the *Polygamia ſuperflua*, under the general ſyngeneſious Tribe.

The Culture of this is the ſame with that of the *African Marygold*, or upright *Tagetes*, next to be deſcribed; we ſhall therefore avoid Repetition, by delivering the Method of bringing both to Perfection under that ſucceeding Head.

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3. AFRICAN MARYGOLD.

P. XIV. Fig. 3. This is as common in all Gardens as the former; and in moſt Things reſembles it; differing only as another Species of the ſame Genus.

The Diſtinction of our common Names of *African* and *French Marygold* is very idle; both are Natives of the ſame Countries, *Africa* and *South America*; and they are better diſtinguiſhed by their Form of growing.

Our Gardeners call this the *African* or *Double African*. The earlier Writers, *Caryophyllus Indicus*, and *Tanacetum indicum majus*. The latter *Tagetes major*. Linnæus calls it more diſtinctly, *Tagetes caule Simplici erecto pedunculis nudis unifloris. Tagetes* with an upright ſimple Stalk, and with the Flowers placed ſingly on naked Foot-ſtalks.

It is an Annual, as the former, periſhing with the Winter's Froſt, or ſooner, if the Seed be ſooner perfected. The Root has innumerable Fibres. The Stalk is upright, firm, and a Yard high, and it does not ſpread out into wild Branches as the other.

The Leaves are large and pinnated: Their Colour is a duſky, though not a dark Green; and the *Pinnæ* are oblong and ſharp-pointed, ſomewhat broad and ſerrated.

The Flowers are large, numerous, naturally ſingle, and of a pale Yellow. A richer Soil deepens their Colour; and the Advantages of farther Culture renders them double, in various Forms, and in various Tinges of their natural Dye.

In Colour they vary from the paleſt Lemon to the deepeſt Orange, taking in all the Degrees of Yellow.

In fine, the Petals which are multiplied innumerably by the Gardener's Art, are rendered from their plain natural Form, waved, curled, and tubular. This laſt is their moſt beautiful Appearance; and in this Species it is greatly to be encouraged; for as we have not here the Variety in Stripes in the preceding, this beautiful Form is to be conſulted; and we ſhall tell the Gardener how to procure it in the fulleſt Perfection.

To the Diſgrace of Botany, TOURNEFORT enumerates all theſe Varieties of this and the former Kind, under diſtinct Names, as Species; and in Conſequence they are tranſcribed in the ſame Manner into the Gardener's Dictionary, taken from that Book in all that concerns this Part of the Study.

The Sulphur coloured, and the Orange coloured *Tagetes*, are there with numerous others of the ſame Kind, ranged and numbered as diſtinct Species by that Writer; who could not but know better, becauſe he muſt have ſeen one Seed produce them.

Let the Student be no longer deceived by theſe Miſtakes: He knows that under whatſoever Difference Herbs will appear, which riſe from the ſame Seed, they are Varieties and not Species.

To know the Place and Claſs of this Plant in the LINNÆAN Syſtem, a ſingle Flower muſt be examined. This will be found in all Reſpects to anſwer the Deſcription we have given of the Conſtruction in the preceding Kind, for they are Species of the ſame Genus.

We ſhall not repeat thoſe Characters, but refer to them; and having obſerved that the Plant is by them referred to the ſyngeneſious, polygamous, ſuperfluous Tribe, we ſhall proceed to the Culture ſuited to this and to the preceding; for the ſame Management agrees with them.

Culture of the AFRICAN *and* FRENCH MARYGOLD.

Every Spring theſe Plants are to be raiſed from Seed, for every Autumn the Roots die.

This muſt be begun early for two obvious Reaſons; the bringing the Plants ſooner to flower, and the keeping them alive to ripen their Seeds.

Let this be conſidered in the whole Management of the Plants, as the next Years Supply perfectly depends upon it.

The procuring Seeds is the firſt Article, and this muſt be done with great Care.

Let the Gardener go round his Plants when in full Bloom, and mark by Sticks thoſe which are the fineſt in their ſeveral Kinds. The beſt ſtriped of the *French* Marygold, and the largeſt and moſt quilled of the *African*.

When a few fine Flowers of theſe have been fixed upon for Seed, let all the reſt be cut off in the Bud, that the Strength of the Plant be not exhauſted to feed them; but all be carried to the perfecting the Seeds in the others.

Every Day two Hours before Sun-ſet, let theſe Plants be watered; and let them be carefully tied up to Stakes that the Wind may not rock them at the Root.

Double Flowers in general do not well produce Seeds, but this is a Method of bringing them to Perfection.

With this Care they will be well filled; ſtrong, and full of the Principle of Vegetation.

When the Seeds are more ripened, forbear the Waterings; and let them harden upon the Plant as the Root decays. After this in the Middle of a dry Day cut the Heads carefully off; and lay them upon a papered Shelf in an airy Room, as we directed on a preceding Occaſion.

There let them lie till Spring: And in the laſt Week in *February* let them be ſowed upon a Hot-bed: This muſt be of a moderate Heat, and well covered with rich Garden Mould.

When the Seeds are ſown, make the following Compoſt for the choiceſt of the Plants. Mix equal Parts of Earth from under the Turf in a rich Paſture, and good mellow Garden Mould: Add a ſmall Quantity of well-rotted Dung, and to a Load of this put two Buſhels of coarſe Sand: Let this be mixed together, and lie ready.

When the Plants come up, let them by Degrees be hardened to the Air; and when they have grown to a Finger's Length in Height, let another Hot-bed be prepared for them.

Let this be made in ſome ſheltered Part of the Ground, and not covered with Frames; but let Hoops be placed over it at ſmall Diſtances, that a Mat or Cloth may be drawn over.

Cover this ſeven Inches deep with the Compoſt; and then drawing Lines length-way and croſs-way at eight Inches Diſtance; open a Hole in the Centre of every Square, and carefully ſet in one Plant.

Water theſe well, and draw a Mat over the Hoops, letting it fall cloſe at the Ends. Thus let them ſtand at firſt till rooted, then by Degrees raiſe the Mat in the middle of the Day, and harden them gradually.

The common Errors of our Gardeners, is, that they keep theſe Plants too cloſe: They by this Means draw them up in an ill Shape, and ſubject them to be ſtunted when brought out into the open Air; the Change being too violent.

In this Method they will go on gradually, and become inured to their proper Situation, without any Violence; the Heat of this Bed will decreaſe as they grow up; and they will be Day by Day more and more expoſed, till in the middle of a warm cloudy Day, the Mats are wholly to be taken off, and put on no more.

From this Hot-bed they are to be removed into the Places where they muſt remain.

The common Practice is to plant them from this Hot-bed into the Nurſery: And ſo the common Writers direct. From thence they are to be brought into the Garden, as ſoon as it is diſcovered which will have double Flowers.

This Removal at the Time of flowering, I have found always hurts the Plants greatly, tho' done with ever ſo much Care: therefore the Method I have practis'd has been the ſame I mention'd on a preceding Occaſion, of planting two where I intend one to remain. By this Means I have been able to ſhew ſuch Flowers, even in this common Plant, as have ſurpriz'd thoſe moſt us'd to Gardening.

To proceed in this Method, as ſoon as the Plants are ready for Removal, open Holes in the Borders where they are to ſtand, throwing off the Mould, not laying it up at the Edge.

Make two of theſe Holes in each Place, near one another; and bringing in two of the Plants, ſet them upright, one in each Hole, and fill up with the Compoſt inſtead of the common Mould, drawing a little of the common Mould over it, that the Border may be all of one Colour.

At the ſame Time have ready ten or a dozen Pots; and adding to the remaining Compoſt a good Quantity of Sand, and a little common Salt, ſtir all together.

Water the Plants carefully, and they will ſoon be well rooted, and make their Shoot for flowering.

Notwithſtanding the Seed were all from double Flowers, there will be many ſingle; let theſe be pull'd up and thrown away.

Where one of the two Plants in a Place is ſingle, and the other double, the ſingle one being taken up, there remains the other for flowering; and no more Trouble is requir'd.

Where they are both ſingle, both muſt be pull'd up; and one, from ſome Place where both were double, planted in its Room.

There will ſtill remain ſome Places where both the Plants are of the double Kinds: one from theſe muſt be potted. Fill the Pots with the laſt-nam'd Compoſt, and plant in each one of theſe ſuperfluous double Plants.

All being thus diſpos'd, let the Gardener go his Rounds, and carefully thruſt into the Ground, near each, a ſhort firm Stake. Let it ſtand above the Ground half the Height of the Plant; and, tying the Stalk carefully to it, let it remain covered by the Leaves.

Let this be done in the Pots, as well as to thoſe planted in the Borders; and thus they will be ſecured from the Winds.

After this, let all the Plants be water'd every other Day, toward Evening, and they will flower in full Perfection. Thoſe in the Pots will be the ſmalleſt Plants, but they will often produce the fineſt Flowers.

4. INDIAN NASTURTIUM.

P. XIV. Fig. 4. This is a bad Name for a very beautiful and uſeful Plant, but the Gardeners know it by no other. We have repreſented it in the Figure in its ſingle and double State, at once to explain its Conſtruction in the natural Flower, and the extreme Beauty it receives from Culture.

Not the Vulgar alone have miſ-call'd this Plant. Bauhine, a Name of eſtabliſh'd and merited Reputation, ſtands to the ſame Title; and others have call'd it variouſly.

Herman has nam'd it *Viola inodora*; Fævill, *Cardamindum*; and Boerhaave, *Acriviola.*

The Name now receiv'd is *Tropæolum*; and Linnæus adds, as a Diſtinction of the Species, *foliis peltatis orbiculatis: Tropæolum*, with rounded and peltated Leaves.

This Term expreſſes thoſe Leaves in which the Foot-ſtalk is not inſerted at the Edge, but in the Middle, ſo that they reſemble a Shield.

It is a wild, rambling, and climbing Plant, and naturally is of great Beauty.

The Root is fibrous: the Stalks are round, weak, and of a pale green, and they ſpread out variouſly into Branches; but unleſs ſupported they cannot attain any Height.

The Leaves are very beautiful: they are of a rounded Figure, wav'd a little at the Edges, and of a pale and pleaſing green. In the Centre, on the upper Part, is ſeen the Place of Inſertion of the Foot-ſtalk below; and from thence run the Fibres.

The Flowers cover the Plant in great Profuſion, riſing from various Parts of the Stalks and Branches; and they are in the ſingle or common State very beautiful: their Size being conſiderable, and their Colour a fine yellow.

When double, they become yet more beautiful: the Petals are extremely numerous, and finely ting'd with yellow, and with Orange-Colour.

To know the Claſs of the Plant, the ſingle Flower muſt be examined: it ſtands in a Cup divided into five irregular Segments; and is itſelf compos'd of five Petals, with a Spur: theſe are broad and ſhort, and are inſerted into the five Segments of the Cup. The two upper ones adhere by their proper Baſes; but the three others have long narrow Bottoms annex'd, and theſe are bearded in a beautiful Manner.

In the Centre of the Flower ſtand eight ſhort Filaments, in a declining Poſture; and upon each of theſe is plac'd an oblong Button, of four Cells. Amidſt theſe riſes a ſingle Style, which has three Diviſions at the Top; and the ſucceeding Fruit is compos'd of three irregular-ſhap'd ſtriated Berries, each containing three ſtriated Seeds.

The Singularity of this Flower perplex'd the earlier Writers where to place it; but in the Linnæan Syſtem there occurs no Difficulty on that Head: the eight Filaments declare it to be one of that Author's eighth Claſs, the *Octandria:*

and the ſingle Style ſhews it alſo to come under the firſt Section, the *Monogynia.*

Culture of the ſingle and double INDIAN NASTURTIUM.

The Management of theſe differs greatly; the common or ſingle Kind requiring little Care; and the other, to bring it to Perfection, a great deal.

For the ſingle Sort no more is needful than to ſelect a warm Border, where there is a dry rich Soil, and to ſupport the Plants as they riſe in Height.

No Hot-Bed is required to raiſe them; for tho' Natives of *South America,* they will grow on the common Ground.

The Seeds ſhould be ſown the laſt Week in *April,* and the Plants will flower in *July,* with no more Care than the keeping them clear from Weeds, and giving them Sticks to climb upon.

In this Manner they will flower throughout the Summer, and continue till Froſts deſtroy the Root.

The double Kind, which is a Plant of extreme Beauty, was firſt rais'd from Seeds brought from *Peru*; but it rarely ripens them here, and muſt be propagated by Cuttings.

For this Purpoſe prepare the following Compoſt:

Mix of fine Mould, from a dry Paſture, three Buſhels; of Wood-Pile Earth one Buſhel; and of coarſe River-Sand half a Buſhel: let theſe be turn'd ſeveral Times to mellow with the Air, and then put into Pots.

Let the Pots be of a middling Size; and fill as many of them as you intend to raiſe Plants. In the Beginning of *June* take off as many Cuttings as you have Pots, from a vigorous Plant: ſet one carefully in each Pot, and ſet the Pot in a Bark-Bed of a moderate Heat, to promote the Rooting: water and ſhade them till well fix'd, then harden them by Degrees to the Air, and ſet them among the Green-houſe Plants. At the firſt Approach of cold Nights bring theſe Pots into the Stove, and continue to water them at Times.

They will grow vigorouſly, and the next Year will flower in vaſt Profuſion.

Leſs Heat will preſerve them alive; but it is thus they will have all the natural Beauty of the Flowers, which are inferior to few of any Kind.

5. GREAT ORIENTAL PERSICARIA.

P. XIV. Fig. 5. This is a Plant that has long been conſpicuous in our Gardens; and, for its Stature and Singularity, very well deſerves to retain its Place.

All the Authors who have written of it, when firſt known in *Europe,* call it a *Perſicaria*; to which the common Addition, by way of diſtinguiſhing the Species, is *Orientalis Nicotianæ folio:* Oriental *Perſicaria,* with a Leaf like that of Tobacco.

LINNÆUS joins under one Head, the *Perſicarias* and *Polygonums,* retaining the latter Name: to which he adds, for diſtinguiſhing this Species, *floribus heptandris digynis foliis ovatis, caule erecto, ſtipulis hirtis: Polygonum,* with an upright Stalk, oval Leaves and rough Stipulæ; and with ſeven Filaments and two Styles in the Flower.

It is an erect and very noble Plant.

The Root is fibrous. The Stalk is green, round, jointed, at Diſtances, in a conſpicuous Manner, and ten Foot in Height. Toward the Top it divides into numerous Branches; and, with good Management, forms a handſome Head.

The Leaves are large and very beautiful; they have ſhort Foot-ſtalks riſing from the Joints, under the Covert of ſome ſlight rough Films; and they are of an oblong Figure, and approach ſomewhat to oval; broadeſt at the Baſe, and ſmaller to the Point. They are of a fine green, and they are wav'd at the Edges.

The Flowers grow in long Spikes from the Tops of the Branches, and alſo from the Boſoms of the Leaves. They are ſeparately ſmall, but in the Spike they are very conſpicuous: this, before the Flowers open, is of a lively red, with a Tinge of Crimſon. When they are open'd, the Whole looks conſiderably paler; the Buds being much more ſtrongly colour'd than the Inſides of the Flowers.

To know the Claſs to which this Plant belongs, let the Student take off a ſingle Flower. Nature has oddly united the Cup and the Body of the Flower in this and others of the ſame Genus: they grow into one another, forming a ſingle Subſtance; hence ſome have call'd the Whole a Cup, and others a Flower.

Together, they make one Subſtance; but the diſtinct Account is this: The Cup, uniting with the Petal, forms the lower Part behind, and is fleſhy; and the Flower adhering to this, is form'd of a ſingle Petal, divided into five Segments, which are very laſting, and it is tubular, and imperforate at the Baſe.

In the Centre riſe ſeven Filaments; they are ſhort but regular in Diſpoſition, and are crown'd by round Buttons. From the Rudiment of the Fruit riſe two ſhort and ſlender Styles; and after theſe are fallen, the Flower, loſing its Colour, performs the Office of a Capſule, as the Cup does in ſome other Kinds, cloſing on, and defending from Injuries a ſingle Seed.

From the ſeven Filaments the Student will refer this Plant to the ſeventh Claſs, the *Heptandria* of LINNÆUS, and he will do right, altho' the Author himſelf has not plac'd it there. It ſtands in his Work among the *Octandria,* under the Generical Name *Polygonum.*

This we are oblig'd to inform the Student, that he may not be at a Loſs where to find the Plant: but we cannot approve it. If the Genera were ſubdivided and leſs comprehenſive, theſe Accidents would not occur in the Science.

Culture of the ORIENTAL PERSICARIA.

This Plant, tho' a Native of a hotter Climate, lives with us freely in the open Air, and needs little Care to raiſe it: but tho' it requires little, our Gardeners do amiſs who give it none. They are taught this by their common Inſtructor, who tells them, that the Seeds are to be ſuffer'd to fall of themſelves in Autumn, and that they will thus produce much finer Plants than when ſow'd. This, if it were true, would not be much to the Credit of Gardening: but it is not.

It is owing to this wild Way of Sowing, that the Plant loſes its lower Leaves ſo early; and, with them, the greater Part of its natural Beauty. We ſhall direct a Method by which it will ſucceed in a very different Manner.

Let the Seeds be gather'd in *October*, from ſome fine large Heads of a flouriſhing Plant, and let them be ſcatter'd upon a paper'd Shelf, in an airy Room: there let them lie ten Days.

After this, ſelect ſuch Spots in the Ground as will be moſt proper to receive the Plant; and, on each Spot ſo choſen, ſcatter half a Dozen of the Seeds at five or ſix Inches Diſtance from one another. Sprinkle over them a very ſlight Covering of Mould, and thus leave them to Nature.

Let the young Plants grow to four Inches Height, that you may perceive which is the faireſt and ſtouteſt. Pull up the reſt in each Spot, and draw ſome Mould about the Stalk of this.

As it riſes in Height, ſuffer a Branch to grow, as there naturally will, from the Bottom of each Leaf; but if theſe ramble out too far in Length afterwards, ſhorten them. This drawing ſome Juices to the Part, will keep the Plant ſupply'd at the Joint, and the Leaf will be freſh and vigorous; which is a great Article.

In this Manner of Management there will be, in each Spot, one Plant left, the ſtrongeſt of the Parcel; and this will make its Growth without any Check; for the common Method of letting them ſow themſelves at random, and afterwards removing them, always hurt them.

Theſe Plants, without any farther Care, will grow to their full Height; and make a much more beautiful Appearance than as we uſually ſee them.

The others, if wanted, may be planted out in other Places; and it will be ſeen, by the Difference between them, and ſuch as remain in their original Spot, how much this Method of Culture is preferable to the beaten Tract preſcrib'd and practis'd by others.

6. SHRUBBY POLYGALA.

P.XIV. Fig. 6. The Singularity as well as Elegance of this Tree, claim the Attention of all who delight in Exotics. Moſt of the late Writers have deſcrib'd it, and all under the ſame general Name *Polygala*, with various Additions.

Our Gardeners know it by the Name of *Tree Polygala:* and LINNÆUS adds, as its Diſtinction, *foliis lanceolatis obtuſis caule fruteſcente:* Shrub *Polygala*, with lanceolate but obtuſe Leaves.

Others have call'd it *Polygala Myrtifolia*; a Name given it firſt by COMMELINE, but improperly; the Leaves having no juſt Reſemblance to thoſe of Myrtle.

It is a Shrub of ſix or eight Feet Growth; and ſpreads, when the Gardener permits it, with a very pleaſing Wildneſs.

The Root is branched, and yellow within.

The Stem is covered with a greyiſh Bark, and the young Shoots are greener, or ſometimes of a purpliſh brown.

The Leaves hang with a very agreeable Freedom from all Parts of the young Shoots, and uſually are tufted toward the Top. They are oblong, and undivided at the Edges, blunt at the End, and of a pale but pleaſing green.

The Flowers are numerous, and when fully open they are very pretty; but when ſhut, they are, in a general View, loſt among the Leaves. Their Colour on the Outſide being a whitiſh green, though within they are of a moſt delicate Purple.

To know the Claſs of the Shrub, theſe muſt be diſtinctly examined; and there is in them a Prettyneſs which will render this an agreeable Labour.

The Cup in which each ſtands is of a ſingular Figure; three Leaves compoſe it; and of theſe two ſtand below the Flower, and one ſeparate above it.

The Flower itſelf is form'd of three Petals, and decorated with a kind of Pencil at the Verge. It reſembles, in ſome Degree, the *papilionaceous* Kinds, and has the Alæ or Side-Petals large, and the Carina, or lower one, hollow'd and decorated in this ſingular Manner.

In the Centre of the Flower riſe eight Filaments, which are form'd into two Bodies at the Bottom, but are all free at their Tops, and crown'd with roundiſh Antheræ. In the Midſt of theſe is plac'd the Rudiment of the Fruit, and from this riſes the Style, which is ſingle.

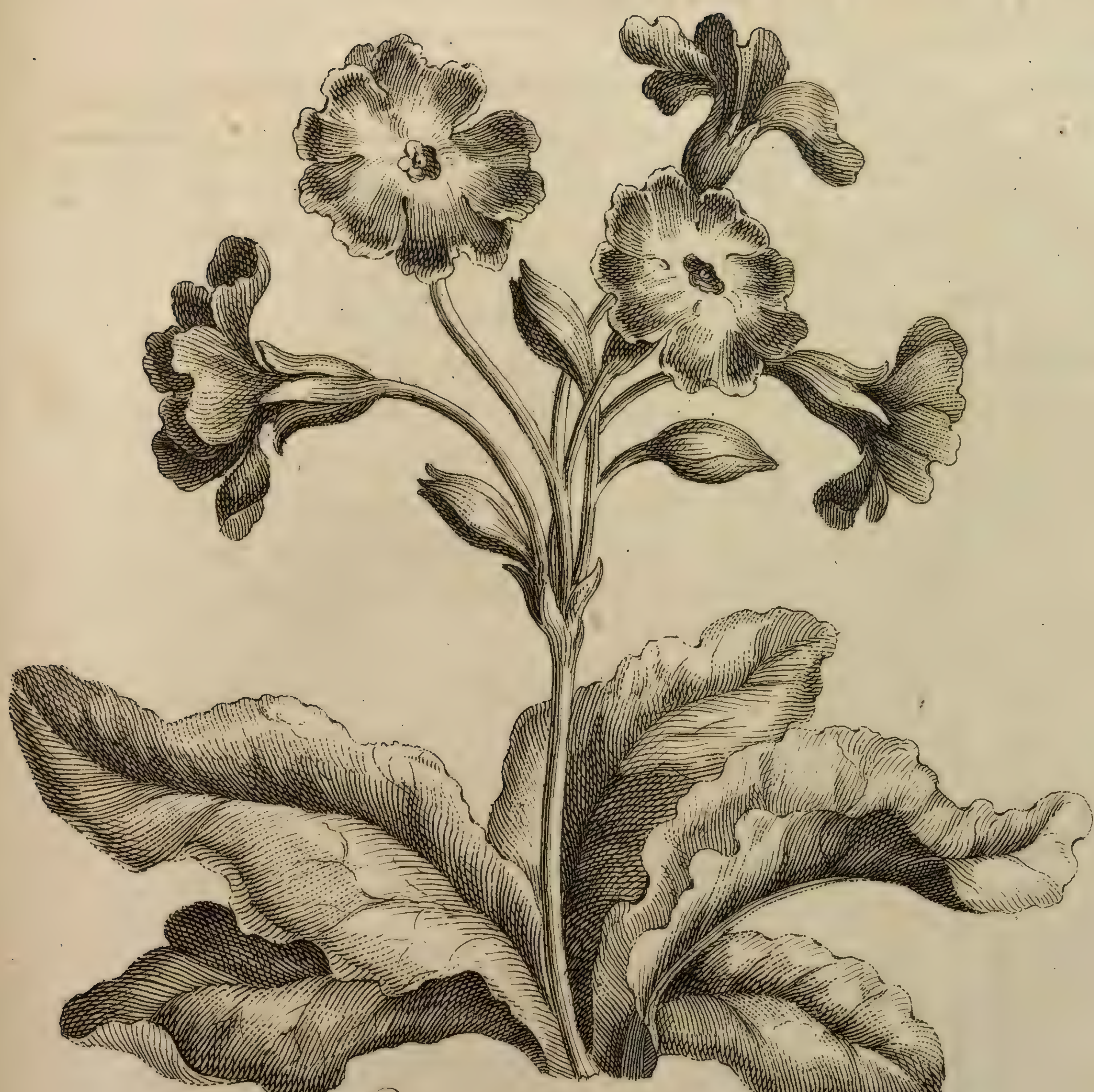
The ſucceeding Fruit is a dry Capſule.

The Student, initiated now into the LINNÆAN Syſtem, will find no Difficulty to underſtand to what Claſs this Shrub is to be referr'd. The Seventeenth in the LINNÆAN Syſtem comprehends thoſe in whoſe Flower the Filaments form two diſtinct Bodies; and this is of their Number.

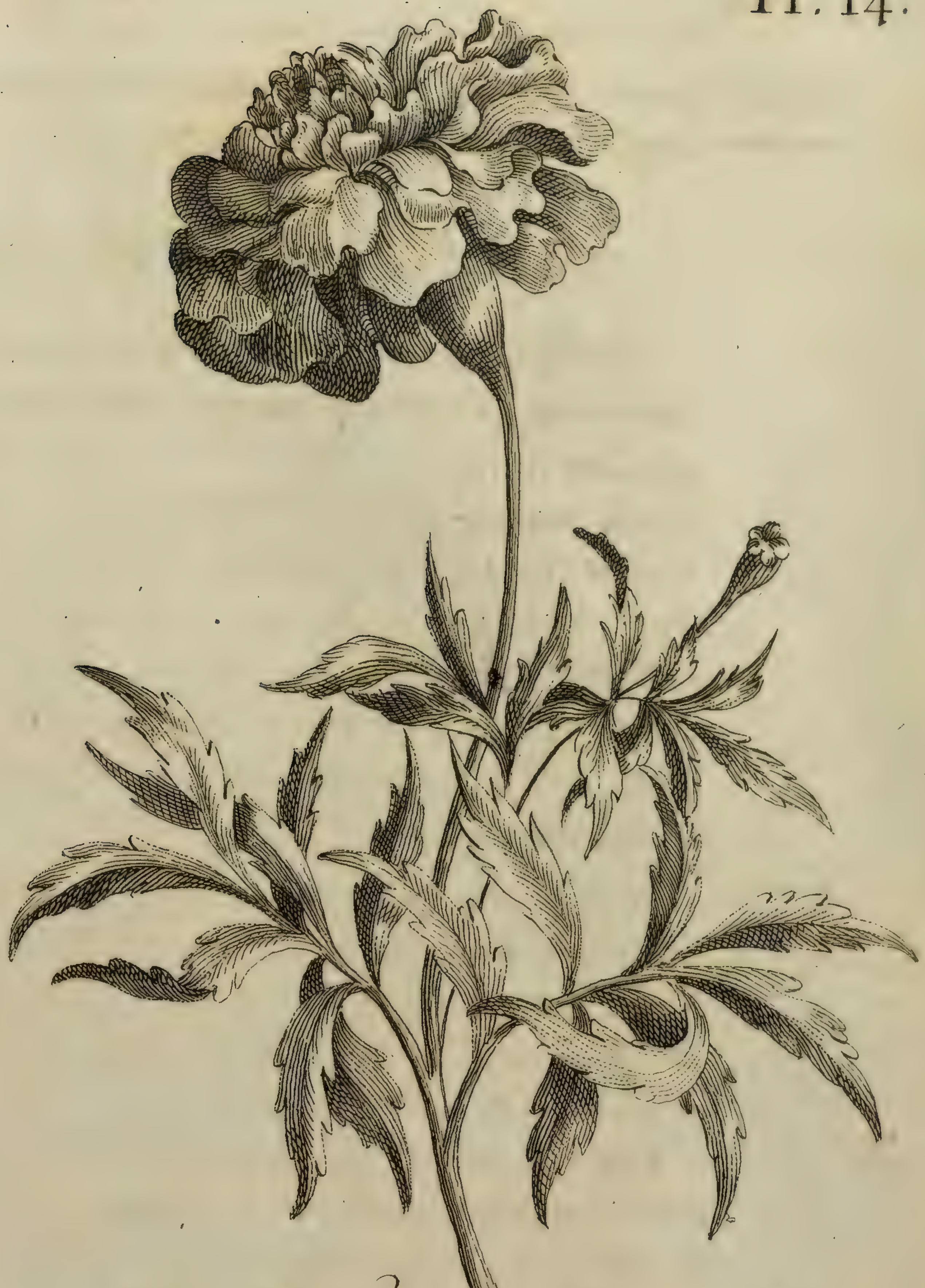
This *diadelphous* Claſs is divided into Sections, according to the Number of the Filaments; that altho' in other Caſes the Character of a Claſs being here only the Mark of a ſubordinate Diſtinction.

The firſt of thoſe Diviſions in the preſent Claſs, contain the *Hexandria*, and the ſecond the *Octandria*,

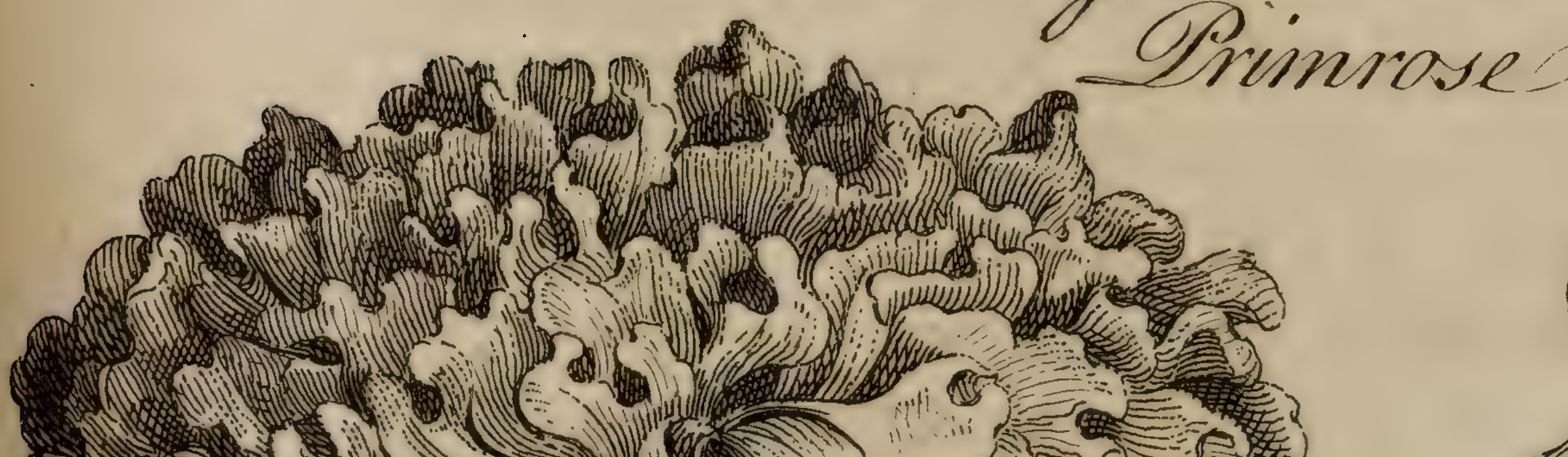
Pl: 14.



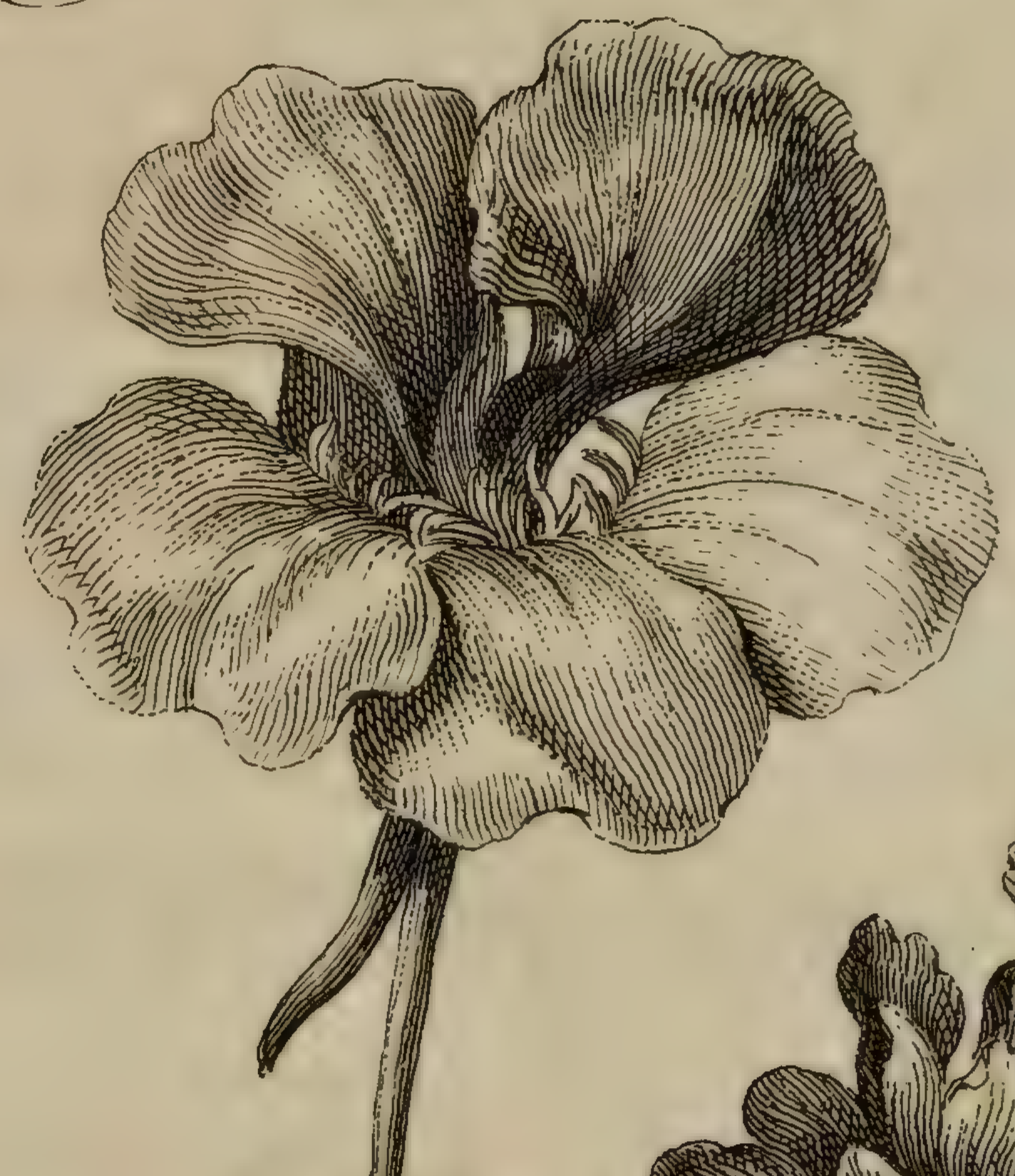
The Polyanthous Primrose



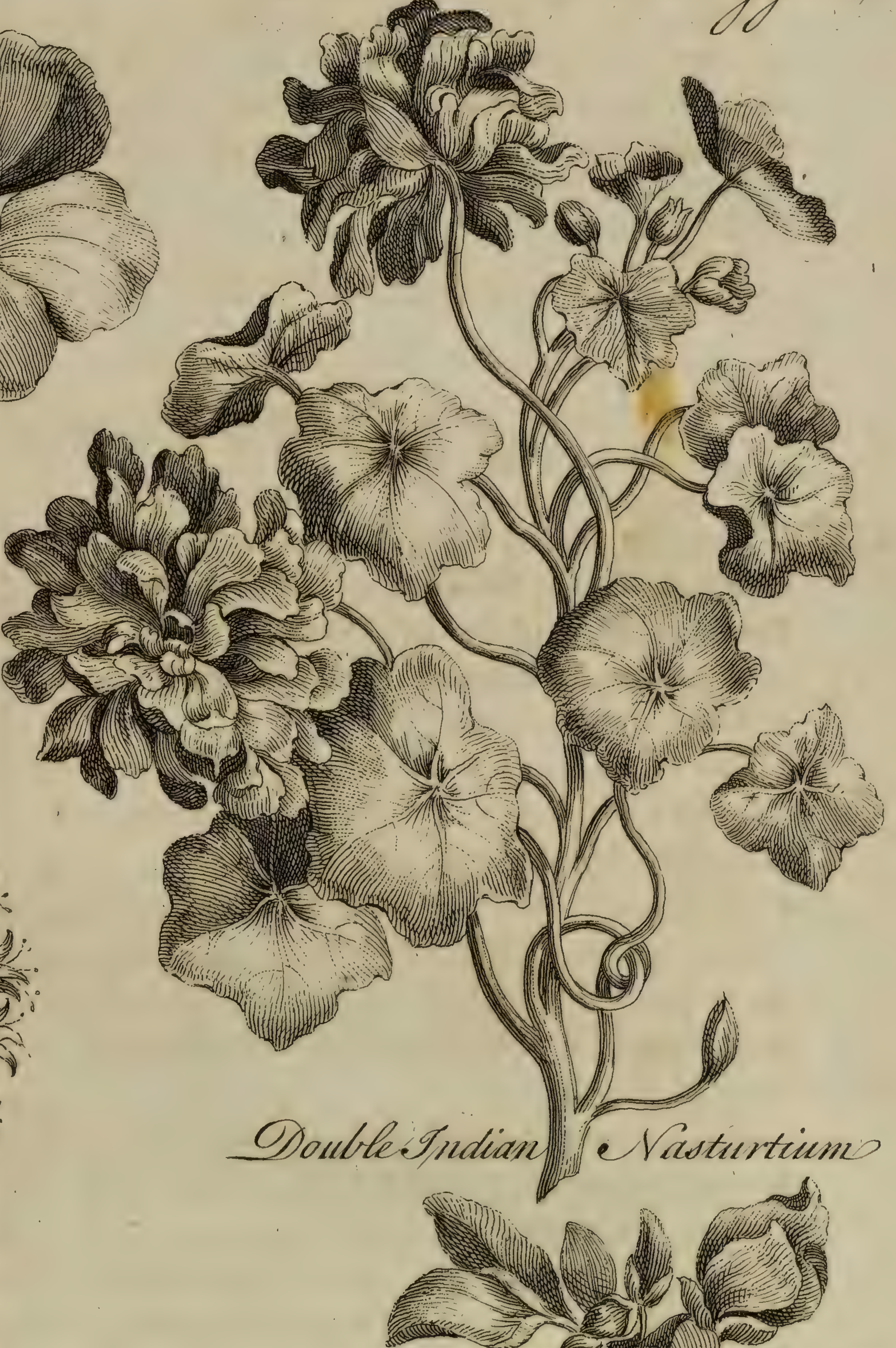
Double French Marygold



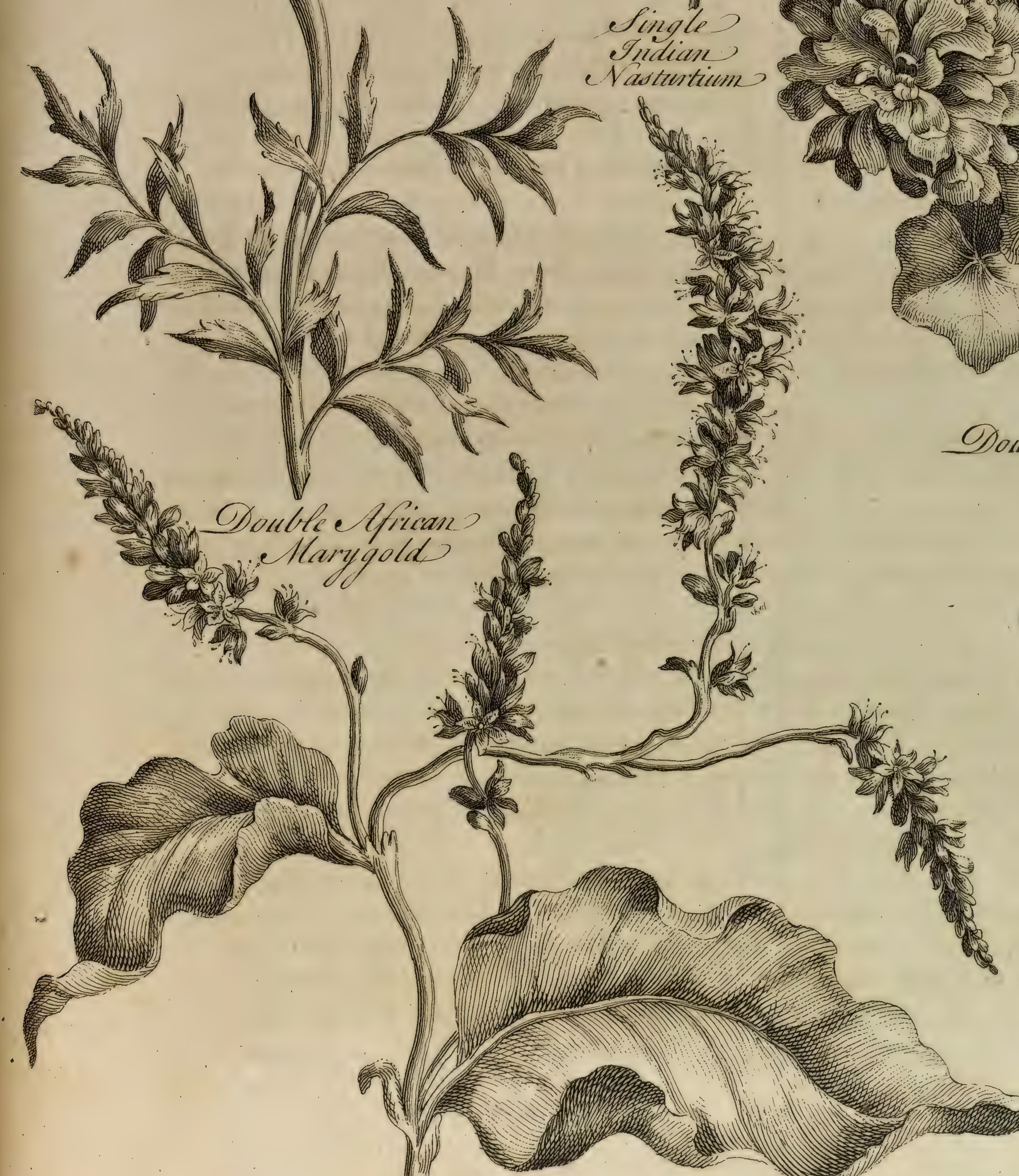
Double African Marygold



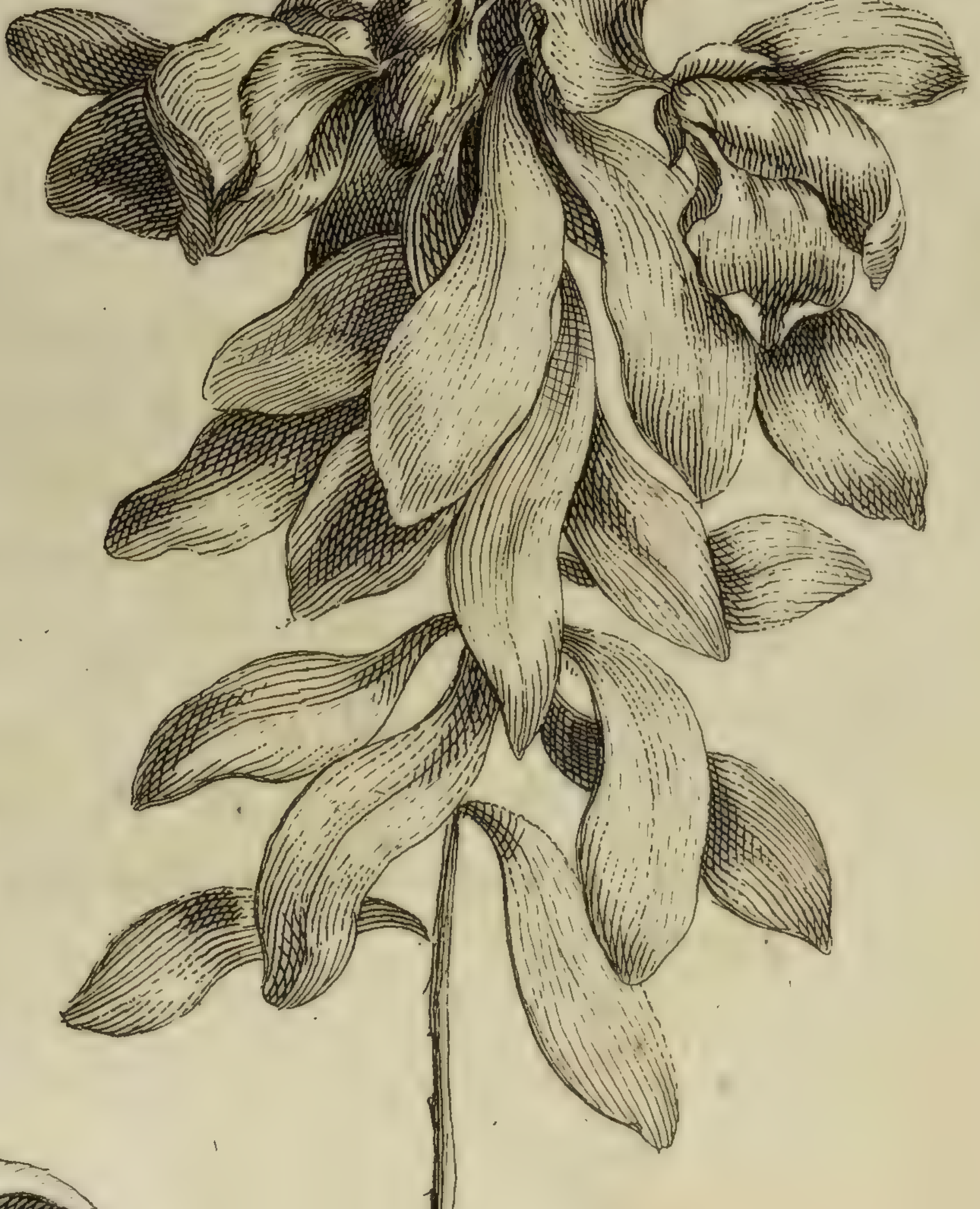
Single Indian Nasturtium



Double Indian Nasturtium



Great Oriental Persicaria



Shrubby Polygala

J. Hill delin. et sculp.

dria, or thoſe with eight Filaments, to which therefore this Plant belongs.

Culture of the SHRUBBY POLYGALA.

This Shrub may be propagated by Cuttings; but the beſt Method is to raiſe it from Seeds, for they ripen very well ſome Years with us; and would much oftener under better Management.

It is a Native of *Africa*, and there thrives in the burning Sands. This ſhould be our Direction for its Culture; and this we ſhould regard; not their Inſtructions who direct for it a rich Earth.

In ſuch a Soil as ſuits it, the Shrub produces Abundance of Flowers; and, if it be allow'd Air and Waterings, will very well perfect its Seeds.

The Soil I have found beſt agree with it is common Mould, taken from under the Turf in a dry and not very rich Paſture, mix'd with one third Part the Quantity of Wood-Pile Earth.

Let theſe be thrown into a Heap, and lie all Winter.

In Autumn, let ſome Seeds be carefully gather'd as they ripen, and ſpread upon a paper'd Shelf to harden. Then let them be put up in a Paper, and kept till Spring.

In the Beginning of *March* fill a Couple of moderate Pots with the Compoſt; ſcatter on the Seeds not too thick, and cover them with a Quarter of an Inch of the ſame Soil: give the Whole a very gentle Watering, and ſet the Pots up to the Rim in a Bark-Bed of moderate Heat. Here let them ſtand, gently watering them, at Times, with Water that has ſtood a Day and Night in the Stove; and watch the coming up of the Plants.

They muſt have a little Air allow'd them, and with it very gentle Waterings, as they riſe in Height.

When they are two Inches high, they muſt be tranſplanted into ſeparate Pots.

Provide as many of theſe as you intend to raiſe Plants, and fill them with the Compoſt. Into each of theſe ſet one of the young Plants, letting it in with Care. Give them a gentle Watering, and ſet them up to the Rim in the ſame Bark-Bed.

Shade them and refreſh them daily with a little Sprinkling, till they have taken Root; and afterwards inure them by Degrees to the Air and Sun.

About *Midſummer* ſet them out among the Greenhouſe Plants, and give them the ſame Treatment with the reſt; and at the Approach of Winter, take them in.

The ſucceeding Spring let them be remov'd into larger Pots, and treated in the ſame Manner; and in theſe they will flower profuſely that Summer, and during a good Part of the Winter.

CHAP. II.

The Management of the Flower-Garden and Greenhouſe for the latter End of November.

WE have directed the Gardener to nurſe up the lateſt Flowering-Plants, and force them by every Art to continue their valuable Tributes. Several will in milder Years, under this Management, continue yet to decorate the Borders; others will be failing, and others wholly paſt it; for this is a very late Seaſon for yielding any thing.

Thoſe which are paſt flowering, muſt be this Week cut down; thoſe that are weak muſt be reduc'd in Quantity, by ſhortening the Branches; and encourag'd to ſhoot out more Flowers, by breaking the Earth about them; and ſuch as continue flowering tolerably well, muſt have the Flowers conſtantly taken off as they begin to fade, that the new ones may have better Nouriſhment.

This done, let the Borders in which they ſtand be rak'd over; and they will thus have all the Beauty of which they are capable, Cleanneſs and good Culture.

The Seedlings of the tenderer Kinds will now require all the Aſſiſtance of the Sun's Heat, and all Defence that can be given them from Froſt, without excluding the Air.

Let the Boxes, in which they are ſown, be plac'd where all the Mid-day Sun comes freely to them, and let them be ſcreen'd on every Part whence a cold Wind can blow.

If any Moſs appear upon the Surface of the Mould, or upon the Edges of the Box, let it be carefully pick'd off; and, if the Froſt prove, as now, very ſevere, drop a little long dry Wheat-Straw lightly upon them. This will break the Power of the Winds, and keep off the Severity of the froſty Air; but it muſt be taken off again when the Weather breaks; for it would be as great an Injury to choak as to expoſe them.

The Beds, in which are Roots of *Anemonies* and *Ranunculus*'s, for flowering, muſt be arch'd over with Hoops; and, when the Froſt ſets in hard, Mats muſt be drawn over them.

Theſe muſt be taken off when the Weather is milder; for Air is as eſſential to them as Froſt is dangerous: they muſt be kept always in Readineſs however, to draw over the Hoops again; for in Caſe of heavy Rains, they are as much needed as for the Shelter againſt Froſt: the Wet being, when exceſſive, as dangerous as any thing.

Theſe Things done, let the Gardener go over the whole Ground with an Eye of Cleanlineſs; and wherever he ſees a dead Leaf, pick it away, or a decay'd Branch, take it off; after this he ſhould ſtir the Ground along the Borders, and give the Whole an Aſpect of Regularity and good Management.

This Care being taken of the open Ground, we ſhall walk with him into his Green-houſe, there many of his greateſt Treaſures are depoſited; and there his Diligence and Care are more required at this Seaſon than elſewhere.

All the Green-houſe Plants are now in; and when he ſees them together, he will be able beſt to conſider how he ſhall diſpoſe them to Advantage.

This is a Conſideration of ſome Importance; for they are to remain many Months in their Places, and all that Time will be a great Amuſement to the Owner.

The common Direction is, to place the tall ones at the back, and the lower all the way down in front; but this is a rude Manner of Inſtruction.

In ſuch a Diſpoſition, where there had been no other Care, the prim Regularity would diſpleaſe a judicious Eye; and the Pains taken in raiſing many of the moſt curious Plants, would be loſt by their being obſcur'd among others.

As a great Part of theſe are to be plac'd on Supports, thoſe ſhould be adapted to peculiar Occaſions; and the moſt elegant and curious Things ſhould be ſet in the moſt conſpicuous Manner, without their appearing to be forc'd into ſuch Places.

With Reſpect to the Number of Plants, which is the firſt Article to be conſider'd, let that be ſuited to the Extent of the Building; and of the two Extremes let it be rather too ſmall than too great for the Space.

This depends upon two Principles: That the Plants are beſt ſeen when they are leaſt crowded; and that they thrive beſt where their Branches do not interfere with one another.

For this Reaſon, when the Plants are encreas'd either by freſh Additions from Abroad, or by Propagation, let as many be taken away as are admitted freſh; or let the Building be enlarg'd.

We will ſuppoſe the Number too great for the Place, which is the Caſe, at preſent, in moſt Gardens: let the Gardener repreſent this properly to the Poſſeſſor, and make his Computation how many it will bear.

Having fix'd the Number that muſt be remov'd, let him take away ſo many Pots of Duplicates, and of the weakeſt and leaſt handſome Plants; and ſet them under any Kind of Shelter out of the Green-houſe. If they periſh, it is better than to ſave them, by taking them in, for there they would hurt the general Appearance, and damage one another.

A very great Article in a Green-houſe, is the Admiſſion of Air to the Plants; and nothing can be effectual in this Reſpect while they crowd one another.

Having thus reduc'd the Number to what may ſtand free and clear of one another, the next Article is the Diſpoſition; and in this two Things are principally to be conſulted, the ſhewing the beſt Plants to the moſt Advantage, and the giving a pleaſing Variety of Aſpect to the Whole.

Let the choiceſt Plants be firſt ſet by themſelves, that the Number may be known, and then let the Parts of the Greenhouſe, where they can ſtand moſt conſpicuouſly, be conſulted: they muſt be ſet at ſome Diſtance one from another, that there may be an Intermixture of other Kinds, ſerving as Foils between them; and this farther Advantage will reſult from the ſame Diſpoſition, that on whatever Part of the Greenhouſe the Eye is caſt, there will be ſome Object to charm and ſatisfy the Attention.

Theſe particular Plants ſhould be diſpos'd at ſeparate Diſtances, backward, or toward the Front, according to their Height; and when they are thus plac'd, where thoſe of a like Size will ſtand about them, they ſhould be rais'd to ſome Elevation above the common Level, that they may be the more conſpicuous.

This done, let the Gardener carry in his Eye a general Notion of the Height of the others; and thence begin to place them.

Let him ſet the very talleſt on the hindmoſt Stands; and theſe not in a compleat Row, but with ſome of a little leſs Height interchangeably between; that they may repreſent a Range of Trees, and not a Wall.

There is in theſe Things no Beauty but in their Freedom, and they will repreſent cut Yews, not handſome Shrubs, when diſpoſed in the common dull and formal Manner.

When the upper Row is placed, the Remainder are to come in their ſeveral Ranks; not exactly, but nearly according to their Degrees of Height.

In the placing theſe there is room for a great deal of Fancy: The Variety of Tincts and Shades of Green, is an Article of great Elegance; and a Painter would think himſelf happy in half that Choice the dull Eye of the Gardener neglects.

Firſt let him place on each Side of the ſeveral conſpicuous Plants firſt diſpoſed, ſome one of theſe that has a Colour not like its own, but fitteſt to ſet it off in Picture.

Then let the reſt be placed with Freedom; and though moſt Leaves may be called Green, yet there will be a vaſt Fund of Variation in the grey Green, the blue Green, the yellowiſh, and the ſilvery White mixed interchangeably among the full and fine Colour of the others.

Thus the whole Green-houſe is to be ſet in Order: And in doing this, Care muſt be taken that they are gradually ſhorter to the Front of the Room, though not exactly ſo, and that they ſtand perfectly clear of one another. They will never thrive perfectly, unleſs the Air come every Way between them.

The common Writers are not wholly unſenſible of this, for they order all the tenderer Kinds, which require moſt Air, to be brought to the Front of the Green-houſe; and in the moſt popular of theſe, this Direction is given ſo often, that there would be few left for the reſt of the Houſe, nor Room for theſe to ſtand by one another; we ſhall anſwer the ſame Purpoſe, by keeping them every Way free of one another, as here directed.

When the whole Number is thus diſpoſed, let all the dead Leaves be taken off from them, or any Bough that is particularly ſtraggling and can be ſpared.

Whenever the Weather is tolerably mild, let the Glaſſes be opened more or leſs, according to the Degree of Warmth, every Day about Eleven o'Clock, or earlier in a Morning, and cloſed an Hour or two before Sun-ſet.

This will keep them in Vigour.

All they will require farther will be Watering, which muſt be given as we have directed under the ſeveral Heads, freely to ſome, and ſparingly to others: But all that is done in this Matter, ſhould be about an Hour before Noon; and always the more the Glaſſes can be opened, the more Water may be allowed to the Plants.

A confined Air is very bad for the Plants, but a confined and damp Air together is worſt of all. This rots the Stalks and makes the Leaves fade; and this always follows when the Plants are at the ſame Time cloſe ſhut up, and largely watered. As we direct the Management, the Steam will paſs out before the Windows are ſhut down.

In this Manner may the Gardener put his Green-houſe in the beſt Order, and preſerve it in full Beauty all the Winter.

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SECT. II.

The Buſineſs of the SEMINARY, *for this Week.*

THE Care of the Flower-Garden is to be repeated in this Place; and all trimmed clean and put into good Order.

Let the Gardener as he goes his Rounds in doing this, mark the Condition of his tenderer Beds of Seedlings, and new planted Shrubs; and wherever he perceives Danger, double his Care for Preſervation.

Let him drive in his Stakes, if any be looſe; and if he thinks any Tree in particular endangered by the Froſt, lay ſome Haulm of Peaſe or Beans to a good Thickneſs about the Stem, and four Feet every Way round it.

Let him ſee that there be no Breach in the Fence, or any Way for the ſharp Winds of the Seaſon to come in; and let him, as the Weather is more or leſs ſevere, put on or take off the Mats and Cloths from the Hoops, that we have directed him to place over his Seedling Beds, as in the Flower-Garden.

This will be all the Care that is needed for the preſent Week; but let him neglect no Part of this; for if he ſhould, his former Labour will prove of little Service.

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SECT. III.

POMONA, or, the Fruit-Garden.

IF the Froſt proves ſevere this Week, nothing can be done in this Part of the Ground: But if the Weather be milder it is a very proper Time for refreſhing the Earth in which the Roots of Fruit-Trees ſpread.

This takes in a larger Extent than many imagine; and the Refreſhment now proper to be given them, may be by Means of digging, or the Addition of freſh Matter; but beſt of all by both.

It would not be proper to dig about the Roots of Trees in extreme Froſt, becauſe the Severity of the Air would be ſo admitted more immediately to them; but neither is it practicable: This therefore is no Objection to what we propoſe.

The Ground can only be dug when the Weather is mild; and the Roots thus expoſed will be covered up again, not only with their own Mould; but with the Addition we propoſe, before the Froſt ſets in again to attack them.

To go properly to work in this Matter, let the Borders firſt be raked over, to take off all dead Leaves, broken Wood, and other accidental Foulneſſes.

Then let there be brought on ſome Barrows of freſh Earth from under the Turf in a rich Paſture, and half as much Pond Mud thrown on it.

After theſe lay on a ſmall Quantity of Soot and ſome Pigeons Dung; and ſprinkle over the whole a little Brine.

When all is brought on, let the whole be ſtirred together with a Rake, that it may be mixed in every Part.

Then let the Gardener dig it in. The uſual Way of doing this, is with a Spade; but it is not

Nov.

not the beſt, Experience ſhews that it will often greatly damage the Roots, and do more harm than the Addition good.

The proper Inſtrument for the Purpoſe is a three pronged Fork, like what the Farmers uſe; but as ſuch an Inſtrument will ſerve on many Occaſions as well as this, it will be proper to add it to the Number of regular Gardeners Tools, and to have it fabricated purpoſely.

What I have many Years uſed, is made in this Manner: The Handle is the ſame with that of the Spade, and the Iron Part is very ſtrong; the Top is as broad as a Spade, and made Square, that the Foot may reſt well upon it to preſs it down into the Ground, and the three Tongs are thick, ſcooping like a Spoon, and a little flatted.

Nov.

This is the proper Inſtrument for digging in the Manure at the Roots of Fruit-Trees; and with this it ſhould be well wrought and mixed with the Soil of the Bed, dug up to about ſeven Inches Depth for that Purpoſe: When the whole is well mixed, let the Border be raked over; and nothing planted upon it; that all the Strength of the Manure may go to the Roots of the Trees.

In treating in a ſucceding Part of this Work, of the Soil for Fruit-Trees; we ſhall give Directions for peculiar Kinds of Manures ſuited to each, for the making of a Garden; but this Kind we have here delivered, may very well ſerve for general Uſe; and none anſwers better for the Refreſhment of Garden-Ground exhauſted by a long Growth of Fruit-Trees.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

WE have directed the ſowing of young Salleting upon Hot-beds, and let it be repeated this Week.

Theſe Hot-beds muſt be of a temperate Degree of Warmth, and Care muſt be taken to give the young Growth Air, when the Weather is any Thing tolerable, in the middle of the Day.

If the Days be mild toward the End of this Week, it will be proper once again to plant ſome Beans, and to ſow a few Drills of Peaſe: If they out-live the Froſt, they make a good Succeſſion.

A great deal of Care is required for the Cauliflower Plants under the Glaſſes. If covered too continually, they will fade for Want of Air; and if expoſed to the Severity of the Seaſon too freely, they will be nipped by it, and come to little.

Let our Gardener therefore keep the Glaſſes cloſe, whenever it is ſharply froſty; and let him watch all Opportunities of milder Days, and from Eleven to Two, raiſe them more and more according to the Seaſon; thus he will keep them not only alive but healthy.

Every Thing is now bare and naked in this Part of the Ground, except the few Spots covered with the Winter Crops; let him therefore take this Opportunity of looking after Snails, Neſts of Caterpillars, and other Devourers; there is nothing to hide them from his Search, and they are in no Condition to eſcape him.

On the Tops of the Branches in his Hedges, and on many Trees that are about the Place, he will ſee Bags like Cobwebs: Theſe are the Neſts of Caterpillars; that will the next Year eat his Cabbages and other valuable Products; let him cut them off, and burn them.

Snails are now got into their Winter Shelter, in Holes of Walls, and under Logs of Woods, and in all Kinds of Crevices; let theſe be picked carefully out of their Holes, and every Hedge and Pale ſearched for them.

It is a Buſineſs that muſt be done, and there is no Time ſo proper for it, as when it interferes with no other.

The Ground being thus cleared, the Gardener may leave it for the preſent.

E D E N:

A

COMPLEAT BODY of GARDENING.

* * *

NUMBER XV.

For the firſt Week in *DECEMBER*.

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SECTION I.

FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. VIOLET MIMULUS.

Dec.
Pl. XV.
Fig. 1.

THIS is a very ſingular as well as beautiful Plant; and one conſiderable Recommendation of it is, that in a Green-houſe with moderate Care, it may be kept flowering in all its Glory to the preſent Seaſon.

Many of the late Authors have named it, but till of very late Time, its true Genus was not eſtabliſhed; 'tis therefore we read of it under ſuch various Denominations. GRONOVIUS has called it *Lyſimachia galericulata*. --- BOERHAAVE, *Gratiola Canadenſis*.--- And MORISON and RAY, *Digitalis perfoliata*.

It is of a Genus diſtinct alike from all theſe, and is a ſingle Species.

LINNÆUS calls it *Mimulus*; and as there needs no ſpecifick Diſtinction, adds none.

It is the joining Plants under the ſame Name, which have ſufficient Characters for the eſtabliſhing diſtinct Genera, that has ſo lengthened the Names of Species, to the Reproach of modern Botany: The Conduct of LINNÆUS in this Inſtance, ſhews how that Practice may be avoided.

The Violet Mimulus is a handſome Plant of regular Growth, and of a laſting Beauty.

The Root is formed of many Fibres connected to an oblong Head.

The Stalk is round, purpliſh at the Bottom, and toward the Top whitiſh, with ſome Green.

The Leaves are of a beautiful Shape and Colour, they are oblong, broad at the Baſe where they encompaſs the Stalk, and ſharp at the Point: of a fine ſtrong Green, and not ſerrated at the Edges.

Dec.

The Plant unleſs ſpoiled by a too luxuriant Culture, does not ſend out many Branches, ſo that its Flowers regularly and beautifully riſe on long Foot-ſtalks from near the middle, to the Top.

Theſe are large and of a very glorious Colour, a violet Blue ſometime tinged with reddiſh: and each of them is ſucceeded by an oval Capſule in which are many Seeds.

To know the Place the Plant claims in the LINNÆAN Syſtem; this Part, as well as the Flower, come under Conſideration.

Let our Student take off a Flower, and he will find it placed in a ſmall Cup of a ſingular Figure, formed of one Piece, but folded in five Ridges, ſo as to appear pentangular; and broke into five Points at the Edge.

The Body of the Flower conſiſts but of one Petal, and it has a gaping Aſpect. The tubular Part is gradually expanded, and at the Verge opens into a conſiderable Breadth, and is cut rudely into two Lips.

The upper one is ſplit at its Top and turns back at the Edges: The lower Lip is broader, and is divided into three rounded Parts. And ec.

at the Baſe of this Lip there appears a ſwelling Palate.

When the Flower firſt opens, theſe Parts are confuſed, and when it begins to fade, they in ſome meaſure loſe their Form: 'tis when it is juſt in Perfection, they are to be ſeen regularly; and the Flower is then very elegant, as well as peculiar in its Form.

The peculiar Structure of the Flower being thus underſtood, let it be torn open with Care, to ſee the Parts of Fructification; theſe are four Stamina or Filaments, and a ſingle Style.

Let not our young Botaniſt be haſty thence to refer it to the *Tetrandria Monogynia.* This would be its Claſs and Section, if the Filaments were equal in Length; but he will ſee two of them are larger than the others: This throws it into the *Didynamous* Claſs, and there the Style does not mark the Sub-diſtinction.

Two Sections receive theſe *Didynamous* Plants, the one containing thoſe whoſe Seeds remain naked in the Cup; the others thoſe which have them in a Capſule: the Term for this is, *Angioſpermia.* 'Twas therefore we remarked the Capſule, as a Part of the Plant's eſſential Character; and thus we find its Place to be among the *Didynamia Angioſpermia.*

Culture of the MIMULUS.

It is a Native of *North America*, a Climate as ſevere as ours; and may therefore be raiſed with us in open Ground: but we prefer a different Culture. The Borders of a Garden are over enriched for it, and where its Roots have too much Room, the Plant ſpreads into many Branches.

Its Beauty depends upon the nurſing it up in a ſingle erect Stem, and covering the Top of that with Flowers.

To this Purpoſe, let the following Method of Culture be obſerved, according to which it will riſe as in the natural Way: let it alſo have that Kind of Soil in which it thrives beſt in *America*; and it will flower in all its Glory, becauſe reſcued from the Checks and Shocks it receives, in the Gardener's Practice of Removal.

Dec.

Let Seeds be procured if that can be done, from *America*; if not let them be carefully taken from Plants growing here. Let them be ſaved from Flowers that opened in the beginning of *October*, and carefully hardened on a Shelf in an airy Room.

Let four Pots of a middling Size be filled with Earth, taken from under the Turf in an upland Paſture, without any Addition. Set theſe in ſome Part of the Garden, open to the Morning Sun, and defended from cold Winds; and in the beginning of *December*, ſcatter upon the Surface a few of the Seeds. Sprinkle over them a very light covering of Earth from under a Wood-pile, and thus leave them to Nature.

In Spring there will be ſeen ſeveral young Plants in each Pot: having been born as it were in the Severity of Winter, they will defy the Cold of Spring, and when the Air begins to be warmer, they will ſhoot up apace.

When theſe have ſome little Height, let the ſtrongeſt Plant that ſtands near the middle of each Pot be marked, and carefully draw up all the others; theſe may be planted in common Ground to take their Chance; and the reſt muſt be left one in each Pot to riſe gradually.

In Summer let them be ſet out among the Green-houſe Plants, and let them have but little Water; this will keep them from growing too large; and will keep back their flowering for that late Seaſon, when they will be moſt valued.

At the Approach of Winter let them be taken into the Green-houſe, and when the Top Flowers are paſt, let thoſe be taken off and not left for Seed; and thus it will continue a long Time in renewed Beauty.

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2. BROAD-LEAVED PANCRATIUM.

P. XV. Fig. 2.

This is a Plant of very great Elegance, and is an Ornament of the firſt Kind to the Stove, at this Seaſon.

Thoſe who have had Opportunities to ſee the *Amboyna* Plants, deſcribe it, but under various Names. RUMPHIUS, calls it *Allium Amboinenſe*, or *Cepa Amboinenſis*; and COMMELINE, *Narciſſus Amboinenſis.* The firſt Glance ſhews how improper both theſe Names were; but till LINNÆUS, none told us what to call it in more correct Expreſſion. That Author has diſtinguiſhed the bulbous Genera by certain and invariable Characters, and he refers this Plant to the Pancratiums; adding as its Diſtinction from the others, *Spatha multiflora foliis ovatis nervoſis*, many flowered Pancratium, with oval, high-ribbed Leaves.

The Root is bulbous and of an oval Form, white, inſipid, ſcentleſs; and ſends from its Baſe a few thick Fibres.

The Leaves are very beautiful, three or four, rarely more, riſe from each Root, and they have long Foot-ſtalks, which when the Plant is healthy are of a fine Purple.

The Leaves themſelves are of a pale, but elegant Green; their Form is oval, and they terminate in a Point. Their Ribs are high, conſpicuous, and in the full Vigour of the Plant, are tinged with a faint Purple, they follow the Form of the Leaf, and at the Extremity unite in one common Point. They are juicy, and to the Taſte inſipid.

Among theſe Leaves riſes the naked Stalk, Purple at the Baſe, Green upwards, ſtrait, round, firm, and two Feet high. From its Top burſt a Number of large Flowers, each on its ſeparate Foot-ſtalk, ſpreading into a very noble Tuft.

Their Bigneſs makes them very conſpicuous, their Number more, and moſt of all their Colour, which is a pure and gloſſy white. This is their full Recommendation, for they have no Smell. The Seed-veſſels that follow, are oblong, and have three Ridges.

To know the Claſs to which this Plant belongs, let a ſeparate Flower be examined: the Characters are mark'd ſo obviouſly, that none can miſtake them.

Six Filaments diſcloſe themſelves in a very conſpicuous Manner in each Flower, terminated by gold yellow Buttons, which add not a little to its Beauty. Theſe ſhew the Plant to be one of the *Hexandria* of the LINNÆAN Syſtem, a Claſs that comprehends moſt of the bulbous Kind.

In their Centre ſtands a ſingle Style, and this determines, in the ſame obvious Manner, the Subdiviſion, making it one of the firſt Section in that Claſs, the *Monogynia.*

The whole Tuft of Flowers has a common Cup or Scabbard plac'd at the Top of the main Stalk, where their ſeveral Footſtalks riſe: this burſts, to give them Leave to ſpread, and ſoon after fades.

The Flowers retain their Luſtre and Perfection a very conſiderable Time; and after this the Stalk ſhould be cut down, for the Seeds will not ripen well in *England*; and the ſuffering them to remain upon the Plant, exhauſts the Root to no Purpoſe; and hurts the next Year's flowering.

Culture of the BROAD-LEAV'D PANCRATIUM.

The Propagation of this Plant is beſt accompliſhed by parting of the Roots, when the Off-ſets are ſufficiently grown for ſuch a Separation; and the beſt way of obtaining it firſt, is from the natural Place of its Growth.

There the Roots ſhould be taken up as ſoon as the Leaves decay, and planted as we ſhall direct when they arrive in *England.*

Whether theſe full-grown Roots be procur'd, or the Off-ſets nurs'd to flowering, the Method of their Management muſt be the ſame: the Heat of a Stove is requiſite for bringing them to their full Glory; but leſs Heat will keep them alive, and bring them to a more imperfect Condition of flowering.

The Plant is a Native of the *Eaſt-Indies*, and ſome other of the warmer Parts of the World, and there flowers in mellow Soils in *November.*

Where it ſucceeds beſt, the Mould is found at once rich and looſe: 'tis ſo in *Amboyna*, where it glows in all its Pride.

A black Mould, mixt with a large Portion of a coarſe whitiſh Sand, is there its moſt frequent Nouriſhment.

This is a Soil we have not naturally either in Gardens or in Fields in *England*; but Art may eaſily imitate it; and it is to this careful Mimickry of Nature the Gardener will owe the fulleſt Glory of his Exotic Plants.

For the Reception of this let the following Mixture be prepar'd:

Put together one Barrow of black Mould, from under the Turf in a rich damp Meadow; the ſame Quantity of Pond-Mud, and half a Barrow of the largeſt Sea-ſand.

Stir and mix theſe well, and leave them ſome Time to the Air.

When the Roots arrive from the *Indies*, or when Off-ſets are obtain'd from ſuch as are kept here, let there be as many Pots prepar'd, as there are of either.

Let theſe be of the middling Size; and firſt put into them ſome broken Tiles or rough Stones, that the Opening may be kept free for the Diſcharge of Water; for if that ſhould be ſtop'd up, and the abundant Wet detain'd, it would deſtroy the Roots.

Then put into each Pot as much of this Compoſt as will half fill it: or according to the Bigneſs of the Roots or Off-ſets, more or leſs Mould muſt be put in: let the Root be carefully plac'd in this with its Bottom level downwards; and pour in more of the Compoſt about it, till it is covered half an Inch. Then ſprinkle over the Surface a very little Water.

Thus proceed with all the Pots; and when the Roots are ſo planted and ſettled, ſet the Pots in a warm ſhelter'd Place; and when the Earth grows dry in them, give them a little more Water.

Thus they may ſtand till toward Autumn; and the Leaves will, by that Time, begin to appear. They muſt then be taken into the Greenhouſe, and water'd ſomewhat more freely; and after that into the Stove, where they muſt be ſet in a Bark-Bed of moderate Heat, and water'd at Times, to promote the ſhooting of the Stalk.

They will thus come into Flower the firſt Year, if brought in tolerable Condition from Abroad. This was the Method us'd by COMMELINE, who receiv'd from *Batavia* the firſt Roots of this Plant that came into *Europe*, and ſaw them flower in the full Luſtre of their native Country.

If they were Off-ſets that were thus planted, they will not flower till the ſecond Year.

The Time of Stove-Plants ſending out their Flower-Stalks, may be haſten'd or retarded by the Difference of their Management.

If they be water'd too freely in the Beginning of the Summer, they will flower much before their natural Time, but they will have leſs Beauty. This is an Error againſt which it is very needful to caution the *Engliſh* Gardener.

3. COMMON ARBUTUS.

Pl. XV. Fig. 3. Few Gardens are without this beautiful Shrub, which all the Year ſhews its moſt elegant Leaves; and at this dead Seaſon is naturally in a State of continu'd Beauty; retaining, if rightly manag'd, its ſingular Fruit and Flowers againſt the moſt fierce Attacks of Winter.

All know the Shrub; and moſt have treated of it under the ſame Name, *Arbutus*; to which LINNÆUS adds, as the Diſtinction of the Species, *caule erecto foliis glabris ſerratis, baccis polyſpermis: Arbutus*, with an upright Stem, with ſmooth ſerrated Leaves, and with a Fruit containing many Seeds.

Our common People call it the Strawberry, from the Reſemblance its Fruit bears to the common Strawberry: and it is a ſingular Perfection in the Shrub, that, like the *Heſperian* Trees in warmer Climates, this in the bleak North, and in the ſevereſt Seaſon is thus clothed profuſely both with Fruit and Flowers.

So ſlow is the Growth of this ſmall Fruit, that from the Winter of the laſt Year it has been, till the preſent, arriving at its Perfection; and the Shrub bears at the ſame Time, that hangs upon it in its ripe State, thoſe freſh Flowers which are to give Birth to that of the ſucceeding Winter.

All the Year it retains its Verdure; and we have no Tree of thoſe which endure the open Air, that ſo much brings the Summer to our Minds in Winter.

It is naturally a handſome ſpreading Shrub, but may, at the Pleaſure of the Gardener, be rais'd into a middling Tree: againſt this Reaſon however abſolutely declares. 'Tis one of thoſe Plants which bear a near Inſpection; and whoſe Beauties are loſt at more Diſtance.

Thoſe which have larger and more ſpecious Leaves and Flowers, ſhould be train'd up to Height; this ſhould be kept to ſuch a Stature, that every Eye may ſee for what it is reſpected.

The Root ſpreads far, and ſends its Fibres deep beyond that ſuperficial Mould on which Froſt operates, and this is one Reaſon of its perfecting its Fruit at ſo dead a Seaſon, and retaining its Leaves thro' Winter. The natural Thickneſs of its Juices helps alſo to that Purpoſe; and to their ſluggiſh Courſe, the Conſequence of that thick Subſtance, is owing the vaſt Length of Time requir'd to ripen the Fruit.

The Bark of the Trunk is of a deep brown; that of the Branches paler, and the young Twigs are often purpliſh.

The Leaves are oblong, and of a Form approaching ſomewhat to oval.

Their Colour is a deep but not unpleaſant green; and their Edges are, in a moſt regular and elegant Manner, ſerrated: Art never attain'd a comparable Exactneſs or Proportion.

The Subſtance of them is firm and hard; and, as they decay, frequently they acquire a ſcarlet Colour, which is very pleaſing.

The Flowers are more conſiderable for their Form, than Size or Colour: they are ſmall, and of a greeniſh Hue, naturally diverſify'd a little with white, and ſometimes ting'd with purpliſh. They are hollow, and, as it were, blown up; and at their Rim are dented.

The Fruit which follows theſe ſo ſlowly, is, when ripe, of the Bigneſs and Form of the common Strawberry; but its Seeds are within. Its Taſte, to *Engliſh* Palates, is auſtere and raw; but in *Ireland*, where the Shrub is native, it attains a better Maturity, and is ſometimes eaten.

To know the Claſs in the LINNÆAN Syſtem, let the Student take off a ſingle Flower. The firſt Obſervation will ſhew him that it is plac'd in a Cup, form'd of one Piece, and divided at the Edge into five Segments.

The Body of the Flower is form'd of a ſingle Petal; and it is hollow and of a ſomewhat oval Shape: its Verge is divided into five ſmall obtuſe Segments, which naturally turn back.

The Flower being torn open, there appear ten Filaments; they are ſhort, ſmall, and ſomewhat ſwell'd: the Flower is flatted at its Baſe, and theſe riſe from the Verge of this flat Part. They are not more than half ſo long as the Body of the Flower. The Style, which riſes ſingly in the Centre of theſe, is longer than they are, and has its Riſe from the Rudiment of the Fruit.

This ſhews the Claſs to be the Tenth of LINNÆUS, the *Decandria*; and that its Place is in the firſt Section of that Claſs, the *Monogynia*.

Culture of the ARBUTUS.

No great Art is requir'd to bring into the Garden, or maintain in it, a Shrub which is a Native of our own Kingdom; and bears the bleak Cold of our Northern Mountains unhurt, and in its full Vigour.

The common Way of propagating it, is by Layers; but it is far better to raiſe it from Seeds. Theſe ſhould be taken carefully from the Fruit when fully ripe, and laid to dry upon a paper'd Shelf.

Let the Gardener ſee that he chuſe the ripeſt Fruits for his Seed, and let him take it from ſuch only as grow upon a flouriſhing Tree.

When he has harden'd it upon the Shelf, let him dry and ſift ſome common Houſe-Sand, for the preſerving it during Winter.

Let a ſmall Box be prepar'd, and ſift over the Bottom of it two Inches Thickneſs of this dry Sand: then throw on the Seeds, and ſift over them two Inches more of the ſame Sand: ſet by the Box, and let it ſtand by the Winter.

In the Beginning of *March* ſift away the Sand, and the Seeds will be in a perfect good Condition for Growth.

Fill a Couple of Garden-Pots with fine freſh Mould, from under the Turf in a good Paſture, and upon the Surface of this ſcatter the Seeds, covering the Mould in each Pot with them, at about an Inch Diſtance.

Sift over them a Quarter of an Inch of freſh Mould, and then give a very gentle Sprinkling of Water that has ſtood in the Stove.

This done, ſet the Pots up to the Rim in a Bark-Bed of a moderate Heat, and ſhade them.

The Plants will appear in about eighteen Days; but the exact Time is not certain.

From their firſt Appearance they muſt be, at Times, gently water'd, and harden'd by Degrees to the Air.

Let the Gardener now conſider how many he intends to raiſe; and ſelecting the ſtrongeſt and the beſt looking among them to this Amount, let him pull up the reſt in each Pot.

This will give them more Liberty: they will thrive viſibly upon it, and the Waterings muſt be continued.

About the End of *May* they will be fit for tranſplanting into ſeparate Pots.

Let theſe be fill'd with Earth from a dry Paſture, and a little from under a Wood-Pile.

Let one Plant be carefully ſet in each Pot; and when the Earth has been fix'd about their Roots, and drawn up a little about their ſlender Stems, they muſt have another gentle Watering, and be again ſet into the Bark-Bed. This will greatly promote their Rooting.

They muſt be ſhaded till well fix'd in the new Pots, and every Night gently water'd: when they appear perfectly well recover'd from the Check of their Removal, they muſt be harden'd again, and us'd to the free Air, by opening the Glaſſes; and afterwards ſet out among the Greenhouſe Plants.

At Autumn they muſt be taken into Shelter with the reſt, and remain hous'd thro' the Winter. This is the only Time of their Danger. While young, I have found them very ſubject to Damage from Froſt; but afterwards they bear it perfectly well. Some of the extreme Branches will perhaps be hurt afterwards; but very rarely the whole Shrub.

When the young Plants have been thus brought thro' their firſt Winter, they will with leſs Care ſtand all the reſt.

In the Middle of *April* let the Gardener fix upon the Spots where they are to ſtand; and in the Evening of a warm ſhowery Day, let him open the Holes for them.

Let him throw down at the Edge of each Hole, ſome freſh Earth from a Paſture; and then looſening the whole Ball of Earth from the Bottom and Sides of the Pot, let him take it out unbroken with the Plant in it; and ſetting it upright in the Hole, fill it up with the Earth carefully, and give a moderate Watering.

The *Arbutus* roots but ſlowly; but this Way it will not feel the Check, or need ſo much as ſhading.

The two ſucceeding Winters, let theſe young Trees be defended, as we have directed for all tender Shrubs, againſt the Severity of the Froſt; and from that Time they may take their Chance without Danger, as others.

We laugh at the meaner *Iriſh* for calling the Fruit Tree-Strawberries, and eating them; but the People of warmer Climates, in earlier Time, appear to have underſtood them as a principal Article of natural Food: and they have there no better Taſte.

The *Greeks* and *Romans* name the Shrub univerſally the μεμαικυλὸν of the former is the Fruit of this Tree; and both they and the old *Romans* make the Diet of Nature, in their ſeveral Countries, to have been this Fruit, the Beech Maſt, and Acorn.

LUCRETIUS names, in this Senſe

> —— *Quæ nunc hyberno tempore cernis*
> *Arbuta Phœnicio fieri matura colore.*

And OVID talking of the ſame kind of Food, names his *Arbuteos fœtus montanaque fraga.*

This has occaſion'd the Shrub to be ſo often mention'd by the Poets; who, with all their Praiſe, knew as little of it as thoſe of modern Time underſtand of many Things they boldly mention: and this has led their Commentators into thoſe inextricable Wilds of Dulneſs and Confuſion.

> *Inſeritur vero ex fœtu nucis Arbutus horrida,*

ſays VIRGIL. How ſhall we make the *Arbute* HORRID and HIDEOUS, demands this Commentator? — Becauſe, replies RUÆUS, it has very few Leaves: him we may ſend to School to the *Iriſh* Peaſant. — *Becauſe*, ſays MARTYN (much to be reſpected for many of his Obſervations) *of the Ruggedneſs of its Bark.* — 'Tis an Antient who ſpeaks; and let us enquire what the Antients thought of this Matter.

PLINY, treating of another Tree, ſays it has a *ſmooth* Bark like that of the *Arbutus*; and this the aſſiduous Compiler has tranſlated from THEOPRHASTUS verbally.

What ſhall we ſay to this, but that the Verſe does not deſerve the Comment; and that few Things are more vain and idle than modern Criticiſm.

If it were worth a Gueſs, perhaps the Meaning might be found in an authoriz'd tho' uncommon Senſe of the Word: QUINTILIAN ſupports the Uſe of *horridus* for *jejunus*; and the Meaning may be, the *hungry Arbute*, from its Readineſs to receive ſo ſtrange a Cyon as the Walnut.

4. PURPLE SARACENA.

Pl. XV. Fig. 4. This may, with Juſtice, claim the Character of one of the moſt ſingular among the Vegetable Tribe: and its Marks of Peculiarity are ſo obvious, that they have eſcap'd few who have had Opportunities of ſeeing the Plant. Its Leaves, long before the Flowers were ſeen in *Europe*, were ſent over from *America* as Curioſities: with theſe the old *Engliſh* Botaniſts became acquainted, and figur'd them, tho' without any Account of the Flower. They call it, in their own Language, the ſtrange hollow-leav'd Plant; and after CLUSIUS, who, from the imperfect Account he had been able to obtain of the Herb, ſuppos'd it related to the Sea-Lavender, *Limonio congener*.

We owe Credit to their Veracity, who, unlike ſome of later Name, thought it no Imputation to be ignorant of what they had not Opportunities to learn; and inſtead of inventing Figures of Flowers, left the Place vacant.

BAUHINE, ſuppoſing it of the *Limonium* Kind, call'd it *Limonium peregrinum foliis forma floris Ariſtolochiæ*.

PLUKENET, better acquainted with its Nature, nam'd it *Bucanephyllum* — and MORISON, *Coilophyllum*.

Of later Time it has been call'd *Saracena*, after the Name of SARAZIN, a Botaniſt of *France*. And LINNÆUS, to diſtinguiſh this from another Species, which has larger and more ſlender Leaves, adds *foliis gibbis: Saracena*, with irregularly ſwoln Leaves.

The Root is divided into many ſpreading Parts, hung with numerous Fibres.

The Leaves that riſe from this are very wonderful in Form: they are large, hollow like Pitchers, and ſwell'd out into a kind of irregular Bunch behind; of a firm Subſtance, ſupported by ſtrong Ribs, and capable of holding a vaſt deal of Water.

They begin from a ſmall Baſe, which is uſually purpliſh; and thence enlarge by Degrees to the Place of this irregular Swelling: thence they are again contracted upwards, into a kind of Neck; and from that Part they again ſwell out into a broad Opening or Mouth, whoſe Edges ſtand obliquely, and are wav'd ſo that they reſemble Ears.

If the Plant produc'd nothing more, theſe were enough to recommend it to every one curious in Exotics; and fully to compenſate the Trouble needful to raiſe it; but it bears a Flower as ſingular as the Leaves, and extremely beautiful.

The Stalk which ſupports it, riſes naked in the Centre of the Tuft of Leaves, and is round, upright, and two Foot high. On its Top ſtands a ſingle Flower, large, open, and of a glowing Purple.

This has a double Cup; the under one is form'd of three little oval Leaves, and falls with the Flower: the upper one is compos'd of five very large Leaves, ting'd with the Colour of the Flower, and adding greatly to its Beauty: theſe fall alſo with the others.

The proper and diſtinct Flower of the Plant ſtands in the Centre of theſe colour'd Leaves, defended by them, and defending the Parts of Impregnation. It is compos'd of five Petals, which are broad, obtuſe, and cloſe inward toward one another.

Theſe being ſeparated, there appear the Filaments, which are very numerous and ſmall; and in their Centre, from a roundiſh Rudiment of a Fruit, riſes a ſingle Style, crown'd with a broad Stigma or Top: this remains upon the Seed-veſſel when ripen'd, forming a very ſingular Covering to it; and that is divided into five Cells within.

This Examination cannot fail to acquaint the Student to which Claſs this Plant belongs in the LINNÆAN Syſtem.

It is one of the *Polyandria*, the Thirteenth in that Author's Syſtem; which we have explain'd at large on a preceding Occaſion: and it is of the firſt Subdiviſion of that Claſs the *Monogynia*.

That there were two Species of the Plant, was not underſtood at firſt; and thence CLUSIUS, by whoſe Means we became acquainted with the Plant, ſuffer'd ſome Cenſure: he had receiv'd a Leaf, and a Figure of more Leaves, from an Apothecary of another Nation, CONIER, to whom it had come thro' ſeveral Hands from *America*.

Our famous TRADESCANT brought over the other Species from *America*, ſoon after; and the Leaves being much longer and narrower than in CLUSIUS's Figure, he was ſuppos'd to have given them imperfectly.

Since his Time we find CLUSIUS was right; and TRADESCANT's the other Species.

Strange as the Plant appears in *Europe*, it is frequent in *North America*, even in our own Part of it; and has, among the common People, the Name of *Side-Saddle Flower*. The Flower of the other is yellow.

Culture of the PURPLE SARACENA.

The Plant is a Native of *North America:* ſo there is nothing in our Climate againſt the raiſing it in the open Ground; but its natural Soil and the Condition of the Earth there, render it difficult to bring it here in Gardens to Perfection.

It grows in Bogs of a light rotten Earth, full of Wet and overgrown with Moſs, and other light rooting Herbs. Theſe are Places where it flouriſhes; and theſe are but ill imitated in Gardens.

Some may have Opportunities of trying it by the Sides of Canals, where the Earth is always wet; and if they will throw in ſome proper Bog-Earth into the Spot where it is planted, the Roots will ſucceed the better.

In theſe Places it will never fail to produce Leaves, which are enough to recommend it; but I have not ſeen it flower in any ſuch Spot.

In the Stove I have brought it to that Perfection; and I ſhall give the Gardener here the Method.

Let a Parcel of young Plants be taken up in their natural Place of Growth, with a good Ball of Earth to each, and ſet in a Tub or Box of Mould. they muſt be water'd at Times, and they will thus very well keep alive during the Paſſage.

On their being receiv'd in *England*, let as many large Pots be prepar'd, and fill theſe half way up with the Earth taken from a Bog (mine was from the little Bog on *Hampſtead* Heath, and anſwer'd perfectly well) let each Plant be ſet upright, with its Ball of Earth in the Pot, and fill round carefully with more of the Bog-Earth, till the Pot is full within an Inch and half: fill up this with rich Earth, from under a Wood-Pile, and give it good Watering. Thus let it ſtand the Night; and in the ſame Manner treat every Plant.

The next Day, when the Earth is a little ſunk, lay upon each Pot, and all round the Baſes of the Leaves of the Plant, a Heap of the great white *Sphagnum*, freſh gather'd from the Bog: this is a tall white Moſs common on Bogs, with tufted Tops, which holds Water in the Manner of a Spunge. Pour upon this more Water, from a fine-nos'd watering Pot, and ſet the Pots in a warm, ſhelter'd, and ſomewhat ſhady Place.

Repeat the Watering every Day; and at the Approach of Autumn take them into the Greenhouſe.

According to the Time of the Year, the Strength of the Plants, and other Accidents, they will be fit for flowering the firſt or ſecond Year.

Whichſoever it be, when they are in good Condition, in the Month of *July*, take them from the open Air into the Greenhouſe; water them well; and, after a Week, remove them into the Stove. Set the Pots up to the Rim in Bark, and water them, from this Time, often, but by a little at a Time: one or more of them will thus be brought forward into a Shoot for a Stalk; and theſe muſt be carefully nurs'd for that Purpoſe. They will flower at the Beginning of the Winter.

5. VARIEGATED FLOWERED ASCLEPIAS.

Pl. XV. Fig. 5.

This is a Plant of extreme Elegance, known in very early Times, and afterwards left unobſerved for many Ages, a Native of the *Indies*, and of our *American* Poſſeſſions: Its Beauty is ſufficient to enſure it in this Age of Curioſity from farther Neglect.

It was one of the Plants called *Apocynum* by the Antients; and thoſe who firſt reſtored the Knowledge of it, preſerved it under the ſame Name.

Thus we read of it in PLUKENET and DILLENIUS, but the more accurate Diſtinctions eſtabliſhed by LINNÆUS, remove it from that Claſs, and make it an *Aſclepias*; adding as the Diſtinction of the Species, *Foliis ovatis rugoſis nudis, caule ſimplici, umbellis ſubſeſſilibus Pedicellis tomenoſis*. *Aſclepias* with oval, rugged, naked Leaves, a ſimple Stalk, and low Umbells with woolly Foot-ſtalks. The Name is long, but it conveys a Deſcription of the Plant.

The Natives of *America* call it *Wiſank*, a Name our People have learned from them.

The Root is thick, and of an irregular Shape. The Stalk is firm, upright, purpliſh at the Baſe, and of a pale Green upwards, and is a little downy.

The Leaves ſtand in Pairs, and they are of a ſimple, pleaſing Form, oblong, conſiderably broad, ſupported by ſhort reddiſh Foot-ſtalks, and in themſelves of a deep coarſe Green, with a red middle Rib.

They are not downy, as the Stalk is, but rough upon the Surface, from their own natural Inequalities.

The Flowers are not large in themſelves, but they cloathe the Top in a vaſt Tuft, conſpicuous at a Diſtance by its bright Colour, and much more near from its elegant Variegations.

The outer Part of each Flower is ſometimes White, but when the Plant is in its higheſt Perfection, it is lightly ſtained with Fleſh-colour; the inner Part is of a glowing Crimſon, ſomewhat tinged with a Caſt of Purple.

Each Flower ſtands in a little Cup, formed of a ſingle Piece, broke into five pointed Segments at the Edge, which remains with the Fruit.

The Body of the Flower is formed of a ſingle Petal, cut into five deep Segments, which are of an oval Form, pointed at the End, and ſomewhat bent.

Within theſe ſtand in each Flower five Nectaria, ſurrounding the Parts of Impregnation. Each of theſe is broad, ſhort, and of an irregular Figure; and from its Baſe riſes a kind of Horn, whoſe Point turns towards the Filaments: Within this, round about the Filaments, is placed another ſingular Subſtance of a truncated Form, ſurrounded by five Scales in a manner of a Caſe at the Sides, and opening by as many Cracks.

This is an Appendage of the five Nectaria, which though ſeparate in themſelves, may be underſtood as forming together with this truncated Body one great Nectarium, diſtinguiſhing the *Aſclepias* from the *Apocynum*, and from all other Kinds.

Within theſe ſtand five Filaments, ſo ſhort they would not be diſtinguiſhable but for the Buttons they ſupport; and in the midſt of them riſes a double Germen or Rudiment of a Fruit with two Styles, ſo ſhort, that like the Filaments they would not be diſtinguiſhable, but for the Tops or Stigmata they ſupport.

The Fruit ſucceeding theſe, is a double Pod with numerous Seeds in each, crowned with Down, and a looſe Receptacle.

Singular as the Structure of this Flower appears, the Claſs to which it refers the Plant in the LINNÆAN Syſtem is obvious; the fifth of that Author comprehends thoſe Plants which have five Filaments, and to this it belongs.

Under the ſecond Section of that Claſs are comprehended thoſe pentandrous Plants, which have two Styles, and this is plainly alſo of that Number.

On this and all other Occaſions, let the Student remember, that the Buttons upon the Filaments, and the Tops or Stigmata ſupported on the Styles are their moſt eſſential Parts; therefore though according to the Buttons and Stigmata,

mata, he muſt claſs the Plants, let the Filaments and Styles be they ever ſo ſhort, or even be they inconſpicuous.

Culture of this ASCLEPIAS.

The Plant is a Native of *North America*, and may therefore be raiſed with us eaſily, and kept alive with little Trouble; but though the Cold of its natural Climate makes it bear ours well, we have not the Heat: our Summers do not equal theirs.

Therefore to make the Plant flower in all its Glory, we muſt give it the Aſſiſtance of the Stove.

The Soil in which it is naturally found, is a looſe, light, rich Mould, ſuch as is common on the Edges of Foreſts, where broken Boughs and decayed Leaves have rotted upon it, and covered it from Year to Year, rendering it at once rich and mellow.

This let the careful Gardener imitate by the following Compoſt.

Mix a Barrow of good Earth from under the Turf in a Meadow, half a Barrow of Pond Mud, and a Barrow of rich Earth from under an old Wood.pile. Let theſe be well ſtirred together, and thrown in a Heap till wanted.

Let ſome of the Seeds be procured from *North America*, and Directions given that they be gathered when full ripe and ſent over in the Pods.

In the beginning of *March*, ſow theſe upon a moderate Hot-bed, and when the Plants appear, forward them by frequent gentle Waterings.

When you can ſee which are the ſtrongeſt Plants, pull up the others, reſerving only ſo many as you chuſe to raiſe.

Let them ſtand in this Bed till they crowd one another: then take them carefully up with a little of their own Earth, and plant them ſeverally in ſmall Pots, fill'd with the Compoſt.

Give them a gentle Watering, ſet them in a Bark-bed, and ſhade them till they are well rooted.

Then by Degrees harden them to the Air, and bring them out in *July* among the Green-houſe Plants.

For this Year they are only to be ſet in the Green-houſe in Winter, and taken out with the reſt in Spring; but the ſucceeding Autumn, let one or more of the fineſt of them be taken into the Stove, and they will then flower with the full Beauty they have in their natural Climate.

6. ALOE WITH SPOTTED TONGUE-LIKE LEAVES.

Pl. XV. Fig. 6.

Few of the Aloes deſerve more than this, the Attention of the Curious in Exoticks.

The Form and Variegations of the Leaves which always retain their Beauty, give it a pleaſing Aſpect the whole Year; and when in Flower it is extremely handſome.

COMMELINE has deſcribed it under the Name of *Aloe Africana flore rubro folio maculis albis ab utraque parte notato*. LINNÆUS more correct than all others in his Names of Species, *Aloe floribus pedunculatis, pedunculis, ovato cylindricis curvis*. Aloe with Flowers on bent, ovato-cylindrick Foot-ſtalks.

The Root is fibrous.

The Leaves riſe from its Head in a conſiderable Number, and are broad, flat, thick, and ten Inches or more in Length. Their Colour is a beautiful ſtrong Green, and they are ſpotted in a various and perfectly irregular Manner, on the upper and under Side with White.

The Tips and Edges of theſe alſo have their Singularity. While they are young, they are white and edged with a tranſparent Rim: this ſoon loſes itſelf on the Edges, which grow rough and unequal, from its Fragments, but on the End of the Leaf, it remains longer.

From the Boſom of the central Leaves comes the flowering Stalks, uſually there riſe two of theſe, but ſometimes there is only one; it is round, not very upright, of a greeniſh Colour tinged with Red, and two Feet and a half high.

This with good Culture will be loaded almoſt from the Bottom to Top with Flowers, and theſe diſpoſed in a very elegant Manner; they ariſe ſingly with long red Foot-ſtalks, of a hooped Form, ſo that they are brought near the main Stalk, though not to touch it, and are intermixed with a fine Irregularity one among another.

They are of a tubular Form, and their Colour is a perfect Scarlet.

They have no Cup but adhere naked to the Foot-ſtalk; one Petal forms each of them, and it is ſwelled toward the Baſe, ſmaller at the Neck, and nipped into ſix Segments at the Mouth; ſix Filaments, and a ſingle Style are placed in it, as in the other Aloes, and this refers it to the firſt Section of the ſixth LINNÆAN Claſs, the *Hexandria Monogynia*.

Culture of this ALOE.

It is a Native of *Africa*, and there thrives in the Clefts of Rocks, and in the moſt barren Soils. This refers its Culture to two Articles; that it be placed in ſmall Pots, where the Root may have no more Room than in its natural Growth, and that the Soil be poor; for the reſt, the Culture we have given for the other *African* Aloes, will with it.

The old Plants produce Off-ſets every Seaſon; and theſe are to be planted in the Manner we have before directed, and they will flower the ſecond Year.

Pl: 15.

Violet Mimulus
Broad leav'd Pancratium
Common Arbutus
Purple Sarracena
Variegated flower'd Asclepias
Aloe with Spotted Tongue like Leaves

* * *

CHAP. II.

The Care and Management of the Flower-Garden, Green-houſe, and Stove, for this Week.

WE have in the preceding Number, directed the Autumnal Plantation for the Flower-Garden, and it is now Time to prepare for that of the Spring.

Many Flower Roots are to be planted at that Time, and to give them the full Advantage of Culture, the Borders ſhould be made ready to receive them now. Two Articles are to concur for this, good Digging, and a moderate Enrichment by Manure.

If the Weather be ſeverely froſty, the Ground is too hard for the Spade, and it muſt be omitted till better Opportunity: but if it be a little mild and open, this is the Time.

Dig up the Borders, where theſe are to be planted, a full Spade deep, take out all Roots of Weeds; break every Clod, and throw up the Mould in a ſharp Ridge. This expoſes it to Froſt, Air, and Sun, and at the ſame Time prevents Wet from lodging upon it.

When the Ridge is formed, ſift over it ſome Soot, and leave it thus for the preſent.

From Time to Time it ſhould be afterwards turned, but the ſame Form of a high and ſharp Ridge, ſtill preſerved in the laying it.

This done, let the Gardener go the round of his Plants and Shrubs, and manage them according to the Seaſon, defending them as we have already directed, when the Froſts are ſevere, and giving them free Air when the Weather is milder.

This is a moſt eſſential Leſſon to the Gardener, but in general very ill practiſed: In our Gardens more Plants are deſtroyed by the Method uſed for their Protection than by the Froſts, from which ſo much Care is taken to defend them.

From the open Ground, let our Gardener enter his Green-houſe, and from thence come into his Stove. We have directed him to place his Plants in the former; and that having been done ſo lately, little more can be required there: but in the Stove his beſt Care is needful.

A ſlight Caſt of the Eye will ſhew him, if there be dead Leaves any where on his Green-houſe Plants; if any are ſeen, let them be picked off; and in the middle of fine mild Weather, if any ſuch happen this Week, let the Windows of the Green-houſe be opened carefully in the middle of the Day.

In the Stove the greateſt Attention is requiſite for the Preſervation of the Plants, and the keeping them in Beauty; thoſe which we have directed to be pretend in this Manner, are Natives of Climates in which Cold is unknown; therefore they cannot endure it; but on the other Hand, as the Heat in this Caſe is given by actual Fire, it would be eaſy to carry that too far.

A Thermometer is a common Guide, and it is a very uſeful one; but we ſhall direct the Gardener to judge by the moſt certain of all Rules, the Aſpect of his Plants.

As the Cold now approaches to its utmoſt Severity, the Fire muſt be encreaſed accordingly; but as that is done, let him every Day, once or oftner, look over his Plants to ſee they do not ſuffer by one Extreme or the other.

If the Air in this Place be ſuffered to be too cool, the Leaves of the Plants will begin to look weak: this is the firſt Signal of Danger; and upon examining the Tops of their Branches, they will be found withered. If the Neglect of them continues, the Leaves fall off, the Extremes of all the Branches die; and the whole Plant ſoon after.

Nothing but Negligence of the moſt unpardonable Kind can ſuffer this Deſtruction, which comes on ſo gradually, and gives ſuch plain and repeated Notice.

Upon the firſt Appearance of it on the Plants, the Thermometer will confirm the Suſpicion; and let the Fires be gradually encreaſed, till the Riſe of the Spirit, and the Aſpect of the Plants mutually ſhew the Danger is over.

The other Fault of too much Heat, is the more fatal, as it bears no Aſpect of Danger. Theſe Plants Natives of hot Climes, will live in a Heat much greater than their own, and will ſeem to thrive in it.

A Stove that is kept too hot, will hence to an injudicious Eye, appear in the moſt perfect Condition of Health.

The Plants will look lively and grow freely: indeed too freely; for though it is natural and proper, that they ſhould grow during the Winter, as we have obſerved on ſeveral Occaſions; yet nothing is worſe than their ſhooting too faſt at ſuch a Time.

The Degree of the Heat being thus properly managed; two Things more require the Gardener's Attention; theſe are the keeping the Plants clean, and the watering them.

On the firſt their Health and Vigour depends more than many are aware; and if it were not ſo, the ill Look of Plants, loaded with Filth and over-run with Inſects, is very diſagreeable, where Curioſity is gratified at ſo conſiderable an Expence.

Let Water be ſet four and twenty Hours in the Stove, before it is uſed on any Occaſion about the Plants kept there, that it may have the due Temper and Heat of the Air in this Place.

This Week let the Gardener when he has regulated his Fire, go over all the Plants, picking off dead Leaves, and ſtirring the Earths Surface in their Pots. Then let him with a ſoft Rag dipped in the Water, clean the Stalks where they are foul, and with a Pencil Bruſh dipped in the ſame Water clean the Leaves.

This done, let him give ſuch as require it a gentle Watering. The more the Air is heated the more will theſe Waterings be neceſſary; but this ſhould be done with a fine noſed Pot and a very little at a Time.

This Management will never fail to keep them not only alive, but in their Beauty.

SECT. II.

The Buſineſs of the SEMINARY, *for this Week.*

WE directed ſome Weeks ſince, that the Ground in the Seminary intended to be planted in the ſucceeding Spring, ſhould be dug and thrown up in Ridges.

With this the Nurſery-man contents himſelf, and ſuppoſes he has done enough; but we ſhall direct our Gardener to a farther Improvement.

The Surface of theſe Ridges he will find mouldered by the Froſt, and in fine Condition; but it is only the Surface that has yet received this Advantage. The Froſts have not penetrated the Inner Part, nor have the common Influences of the Air reached it. Let him give them Way by turning the whole Quantity; let him dig down the Ridges in a mild Day, break all Lumps, and ſo leave the whole expoſed with a flat Surface for three or four Days; then let him throw it up into a Ridge again: and occaſionally let him repeat the Operation.

Thus a careful Tillage will ſupply the Place of Manure, much better than it could have been done any other Way; and the whole Quantity of Mould in Spring, will be light, hollow, crumbly, and rich; fit to receive any Thing.

This done, let him look to thoſe Pots of the more tender Shrubs, which he has ſet up to the Neck in the Ground.

The Danger of Froſts now comes toward its Height, let him ſee therefore whether this protects them: If there appear Hazard, notwithſtanding this Precaution, he muſt bring in ſome long dry Straw, and drawing it in carefully between the Stems, cover the Surface of the Earth in the ſeveral Pots. This is a ſufficient Guard for any Thing properly left in this Part of the Ground.

In ſevere Weather let the Gardener go his Rounds here, and ſee no Accident has diſturbed or removed the Matter he has ſpread for Protection about the Roots of new planted Trees.

This is all that can be done if the Froſt be hard; but if it be any Thing mild Weather, let the Ground be broke, and dug about the young Trees, and ſome freſh Mould ſcattered in among it.

The beſt Method of doing it is this, let a few Barrows of Earth from under the Turf on a dry Common, be ſpread over the Ground where the Trees are planted; and with the three pronged Fork which we have directed to be uſed for digging up Fruit-tree Borders, let it be turned up and well broken here.

The beſt of our Nurſery-men dig between the Rows of their young Trees with the Spade; but they do more Hurt by cutting the Roots, than Good by breaking the Ground.

This Method by the Fork wounds no principal Root; but at the ſame Time it breaks off many of the extreme Fibres, which anſwers the ſame Purpoſe, with the Gardener's Method of trimming a Root for new Planting; and there is all the Encouragement for their freſh Shooting.

This taking off the extreme Fibres of Roots, when the Earth is at the ſame Time new broken about them, is of the greateſt Service for promoting the Growth; in the Place of every one thus broke off there ſhoot out Numbers; and the new Soil gives them free Room to ſpread, and furniſhes them abundant Nouriſhment.

This is no where more evidently ſeen than in the Nurſery and Fruit-Garden: after this kind of Dreſſing, the broken Ends of the Roots are cheriſhed by a light free Soil, and they gradually throw out new Ones; theſe are ſlowly ſpreading every Way, till the Warmth of Spring puſhes them more vigorouſly; and then having this firſt Eſtabliſhment in the Ground, they ſpread out in a ſurpriſing Manner, and the Trees ſhoot in Proportion.

Let the Gardener however be careful, that in procuring this Benefit for them, he do not run them into new Danger.

The freſh breaking of the Earth will make it more liable than before to the Penetration of Froſts; therefore if the Place be expoſed, let there be ſome Haulm of Peaſe, or other ſuch dry Subſtance, ſcattered moderately thick over the new dug Ground, and kept down by Pegs or Stones.

SECT. III.

POMONA, or, *the Fruit-Garden.*

NO Fruits are ripening at this Seaſon; nor have we left the Gardener undirected in any Article of preſerving thoſe of the Autumnal Kinds which may be ſav'd for Winter Service. All that remains therefore, is the Management of the Ground; and of that little is to be ſaid, for little can be done in ſuch Weather as uſually attends this Seaſon.

Let the careful Gardener, who ſees his preſent Leiſure, and recollects the Hurry of his Buſineſs in the ſucceeding Spring, prepare himſelf for it, by placing every thing in Readineſs.

Let him conſider in what Part of the Garden or Orchard new Trees may be introduc'd to Advantage in Spring; and at once prepare the Ground and mark the Place by a good Digging.

Let him, in a mild Day, throw up the Earth, in theſe Spots, two Spade deep, and lay it in two Ridges, to mellow with the Froſt; and let him note down in his Book what Tree he intends to plant in each of thoſe Spots.

Let him then ſee that his new-planted Trees keep ſecure; that their Stakes do not rock, nor their Branches ſtart from the Wall; and wherever he has laid any thing by way of Protection to the Roots, let him mind that it keep its Place.

Let him, in the worſt Days, ſee that his Seeds and Roots are in perfect Order for ſowing and planting in the Spring, and that all his Tools be in good Condition; and let him look into his Fruit-Room daily.

If any Pear or Apple begin to decay, let it be taken away: if he ſmell Mouldineſs in any Parcel, let him ſearch the Cauſe, and remove it; and, in the extreme ſevere Weather, throw Straw over thoſe which lie upon the Ground, or upon Shelves.

Nothing diſcovers the Nature of a Soil more than Froſt; and let the Gardener take this Opportunity of obſerving the true Condition of the Ground in his Borders where Fruit-Trees ſtand, and prepare for the Improvement.

He knows little of his Art, who can ſuppoſe one Manure will ſuit all Soils; but this is too common an Error, in Practice at leaſt, if not in Judgment; and to this it is owing that a Fruit-Garden ill made at firſt, generally grows yearly worſe.

Every Piece of Ground has its peculiar Qualities, and every Soil its appropriated Manure, or Matter of Improvement.

Let the Nature of the Ground now be carefully examined in this Part of the Garden, and Care taken to amend it, according to this reaſonable Practice.

Clay is a common Soil in *England*, and there is not naturally a worſe, tho' none is better when well prepar'd: if this be the Caſe in our Gardener's Fruit-Tree Borders, let him improve it thus:

Let him bring in a good Quantity of River-Sand; about one fourth Part as much Coal-aſhes, and as much Pond-Mud: let theſe be broke and ſkreen'd together; not to make them very fine, but to mix their ſeveral Parts.

Then let a good Quantity of the clayey Soil be calcin'd or burn'd upon ſome Wood, till it will crumble to Powder; bring on this with the Aſhes of the Wood, and mix it with the reſt: ſpread this evenly over the Border; and, if the Trees be new-planted, dig it in with the Spade; if otherwiſe, with the three-prong'd Fork.

This, at one Dreſſing, converts the tough, barren, and cold Clay, into a mellow, rich, and warm loamy Earth; than which none is fitter for the generality of Fruit-Trees.

The hazely Mould, in which we find them thrive beſt of all, is not unlike this artifical Mixture. Nothing ſupports a Tree like Toughneſs in the Soil; but this prevents the Roots from ſpreading. The Ingredients here directed to be added, break and looſen its Parts to give them free Paſſage, without deſtroying its valuable natural Quality.

On the contrary, when the Earth is naturally looſe and ſandy, bring on Clay as an Improvement. This I have found ſucceed beſt when a little burnt; but not calcin'd to the Degree we have directed on the preceding Occaſion.

One great Fault in theſe Soils is, that the Water runs off too quick; and nothing remedies that ſo effectually, as giving a Bottom of this half-burnt Clay. The Soil ſhould be taken out two Spade deep for this Purpoſe, and the Clay laid in a Spade Depth, but not ram'd; over this muſt be thrown in the Soil again, improv'd by the Addition of the Clay, with ſome Pond-Mud and Pigeons Dung.

This will prepare a Border, in either of theſe Soils, fit for planting in *February*; or in an old one, the ſame Ingredients dug in as we have directed, will improve its very Nature.

Theſe are the two Kinds of bad Soils moſt frequent with us; and the Method of improving them will lead to the Management of all the others.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THE various Products intended to be rais'd upon a Piece of Ground, do not alter the Nature of its Improvement: Vegetation is the ſame, whether it concern a Cedar or a Cabbage; and the ſame Culture will, for all general Purpoſes, ſuit the ſame Soil.

With Regard to Particulars, the Direction for their Management are given under their ſeveral Heads; but, for the general Improvement of a Soil, whether it be for one Part of a Garden or another, the Rules are the ſame.

What we have juſt ſaid of the Fruit-Tree Borders, may be transferr'd to the Kitchen-Garden; and in the ſame Manner, if the Soil be clayey, it may be improv'd by Sand; if ſandy, by burnt Clay, with the propos'd Additions; and will, from that Management, alter its former Nature.

This is a Time to enquire into the Condition of the Kitchen-Ground, becauſe it is now moſt vacant of its Products; and ſuch Ingredients ſhould be brought on to improve it.

The common Practice ſupplies the Uſe of all with Dung; but tho' nothing raiſes the Growths of a Kitchen-Garden ſo quick, nothing is more improper; for it renders them coarſe and ill-flavour'd.

Indeed, for thoſe who are moſt fond of its Uſe, what we have here directed ſhould precede it; for if thrown in the common Way upon ſuch Soils, it can take little Effect. Its Virtue will be waſh'd thro' the ſandy Soil, and will not mix with the clayey in their natural State; but as we have directed them to be alter'd by Additions, they become a new Soil, and will receive and retain its Influence.

Let this, in every new Kitchen-Garden, be a great Article of the Proprietor's Concern: in the ſevereſt Weather theſe Ingredients may be pick'd up and brought in; and when it is milder, they may be dug into the Ground before the Spring-Planting.

The Beds of Artichokes will this Week require the Gardener's Care; they muſt be earth'd up, laying a Ridge of Mould over their Sides and Tops to preſerve them from the Froſts. The Leaves muſt be cut down for this Purpoſe, and the Earth laid carefully over them.

Where there are any ſet for Fruit, let them ſtand, draw up the Earth cloſe to them, and defend them well; this will keep them in Vigour, and the Artichokes will ripen at a very agreeable Seaſon.

The Celeri is another Article that requires Care in this Part of the Garden; it muſt be earth'd up in a mild dry Day, very high, to preſerve it from the Froſt, as well as blanch it: and with this, and the ſowing a little young Salletting to ſucceed the laſt, may conclude the Buſineſs of the preſent Week.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XVI.

For the ſecond Week in *DECEMBER.*

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. PERSIAN CYCLAMEN.

Dec. P. XVI. Fig. 1.

THE Seaſon makes this valuable: but at whatever Time ſuch a Plant appear'd it would be worth the Culture it demands. The Leaves, as well as the Flowers, have their Beauty; and their Diſpoſition, with the whole Form and Manner of Growth are pleaſing.

Our Gardeners know it by the Name *Perſian Cyclamen*; and they have, in this, judg'd better than many of the more celebrated Writers, who over-look'd it among the Number of Varieties rais'd from Seeds of the common *Cyclamen*, and thence omitted to give it a peculiar Denomination.

Its proper ſpecific Name will be *Cyclamen foliis ovato-lobatis corolla retroflexa: Cyclamen*, with ovato-lobated Leaves, and a retroflex Flower.

It has been denominated *folio anguloſo*, but the Diviſions are all rounded; and I am a Stranger to that Geometry which calls ſuch Figures angular.

The Root is tuberous.

The Leaves ſcatter themſelves wildly from it, on long purple Foot-ſtalks, ſome erect, ſome drooping, others lying on the Ground.

Their Form is oval, with two, or ſometimes more Indentings, which divide the broad Baſe from the ſmaller Extremity, and part the whole into three rounded Lobes.

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Nature wantons in this Particular extremely. Some Leaves have the Diviſions ſlighter, ſome more deep; and ſome are ſhorter, ſome more extended in Length: all are indented deeply for the Reception of the Stalk, and their Colour is a fine ſtrong green, a little ting'd with blueiſh. The Ribs are of a fainter Purple than the Foot-ſtalk; and the ſame Colour glows under the whole Leaf.

Among theſe appear the Stalks of the Flowers; theſe are of a paler red than thoſe which bear the Leaves, and more than twice their Length: they riſe naked from the Root, and each ſupports one Flower.

This is of great Beauty: it is large, and it hangs drooping.

The general Colour is white; ſometimes, but not univerſally, ting'd with a fleſhy Purple; and, at the Baſe, always ornamented with a kind of Circle or Ring, of a deep Purple, rich, and velvety.

This fallen, there ripens a large Fruit, a kind of Berry, round, and when mature, burſting into five Parts at the End, and ſhewing, in the Cavity, many Seeds of an oval Form, rais'd in ſome Places by Ridges; with an oval looſe Receptacle.

To know the Claſs and Place to which this Plant belongs in the LINNÆAN Syſtem, let the

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Student tear open a Flower: he will ſee, by turning down the Segments, that it ſtands in a Cup, divided into five Parts; and that it is form'd of a ſingle Petal: this he will perceive is tubular at the Baſe, and in that Part droops: for the reſt, the Neck is prominent; and the Segments, which are naturally five, turn upwards.

The Structure of the Flower being thus underſtood, let him lay it open to the Baſe, to find the Organs of Impregnation. Within the tubular Part he will perceive five ſhort Filaments and a ſingle Style: this refers it to the fifth Claſs, the *Pentandria*, and places it there among the *Monogynia*, the firſt Section.

Culture of this Cyclamen.

The Plant is to be rais'd from Seeds; and the beſt Method is to ſow them in Boxes, in the Manner of the choicer Flowers.

For this Purpoſe, let a Box of rough Boards be made, four Foot long, three Foot broad, and eight Inches deep.

Mix up ſome Paſture-Mould with one third Earth from under a Wood-Pile, and one ſixth rotted Cow-dung. Lay theſe in a Heap, and let the Whole be well blended, and ſometimes turn'd.

Let Seeds be ſav'd from ſome very well growing Plant: lay them on a paper'd Shelf, and when thoroughly harden'd, tye them up in Papers, and keep them till *September*.

Then fill the Box within an Inch of the Rim with the Compoſt: ſcatter on the Seeds, and ſift over them a Quarter of an Inch of the ſame Mould.

Set the Box in a Place where it will have the full Sun all Winter; and pick off any Moſs or young Weeds that appear.

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In Spring the Surface will be cover'd with young Plants. Let the Box then be removed into a ſhady Place, where the Sun comes only two Hours in the Morning.

In *April* let the Plants be examined; and where they crowd one another let a few be pull'd up.

Give them, at Times, gentle Waterings; and in this Manner nurſe them up, keeping them clear from Weeds, till they are fit for tranſplanting.

Againſt this Time let ſome freſh Compoſt be made of the ſame Ingredients as the firſt, and with it fill as many Pots as you intend to preſerve Plants. Carefully take up the fineſt of them, one for each Pot, and plant them with all poſſible Nicety.

The Seaſon for this is in Summer, when the Leaves are decay'd. When the beſt are thus potted, the Remainder may be planted in a warm, well-ſhelter'd Border, to take their Chance among the hardy Plants.

Theſe which are potted muſt be plac'd in a ſhady Situation till they begin to ſhoot again: then they muſt be remov'd to a warmer Part; and at the Approach of Autumn taken into the Greenhouſe; here they will flower about this Seaſon, and with due Care will continue full of Beauty till late in Spring.

All this while they muſt, at Times, be water'd ſparingly; and, unleſs Seeds are wanted, the Stalks ſhould always be cut down when the Flowers are faded, to promote a Succeſſion of new Bloom for the Continuance of Time we name.

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2. The GUERNSEY LILLY.

P.XVI. Fig. 2.

We ſpeak of known Flowers under their moſt common Names; but this is as improper as the worſt: the Plant is no more a Lilly than it is native of the Iſland whence 'tis nam'd.

Few need be told that it is one of the fineſt Flowers the World produces, nor that it deſerves the Care and Culture by which it may be brought to flower with us, like other Plants.

The Names by which it has been known, are *Lillium Sarnienſe*, and *Narciſſus Japonicus rutilo flore.*

Linnæus, who firſt well-eſtabliſh'd the Genera of bulbous Plants, makes it an *Amaryllis*; in this, together with thoſe who know the Science, the moſt ignorant and obſtinate now follow him. He adds to this Generical Name, as the Diſtinction of the Species, *ſpatha multiflora, corollis revolutis, genitalibus ſtrictis:* Many-flower'd *Amaryllis*, with the Petals turn'd back, and the Filaments and Style rang'd cloſe together.

Mr. Millar, envious of our Succeſs, has undertaken to give his Work, in the new Edition, the ſame Advantage we propoſe in this, by explaining to the *Engliſh* Reader the Senſe of Linnæus's Names. In this Inſtance, he gives the ſame Words, and tranſlates them thus: *Amaryllis ſpatha multiflora, corollis revolutis,* GENITALIBUS STRICTIS: *Lilly Daffodil*, with many Flowers in one Cover; the Petals equal, ſpread open, and turn'd backward, with BROKEN Stamina.

Where did he find theſe broken Stamina? not in the Plant, for they are there perfectly entire, ſtrait, and very long: not in the Word *ſtrictis*; for the juſt Senſe of that is what we have expreſs'd.

Not to rally this Author on a Deficience for which we pity him, the Want of *Latin*, what are we to ſay of this Ignorance in Nature! Did Mr. Millar never ſee a *Guernſey* Lilly, or did he not write the *Gardeners Dictionary?* one of the two ſeems evident.

The Root is a large Bulb.

The Flowers appears at one Seaſon, and the

Dec.

Leaves at another. Theſe latter are not without their Beauty, for their Form is regular and pleaſing; oblong, with a moderate Breadth; and their Colour a moſt lively Green.

The Flower-ſtalk riſes naked from the Root, and is a Foot and half high, of a pale Green, and decorated toward the Bottom with innumerable Spots of a bloody Purple: towards the Flowers 'tis paleſt, but often tinged with a light fleſhy Hue. On the Top of this Stalk appears at firſt an oblong Scabbard, ſerving as a general Cup, and when it burſts, there ſpread out a conſiderable Number of Flowers of the moſt conſummate Beauty.

They are large and beautifully formed; each is ſupported on its ſeparate Foot-ſtalk, riſing from the Head of the main Stem in the Boſom of the Scabbard.

The ſeveral Petals of which the Flowers conſiſt, ſpread themſelves wide as if to diſplay their full Bloom to the Eye; and they are waved a little and turned back.

Their Colour is the moſt perfect Red, and they are ſpangled all over as it were with Gold: This with a deep Red Vein running along their middle, gives them a Glory and Splendor when viewed in the Sun, ſuperior to that of all other Plants.

The Filaments are very long, firm, entire, and of a delicate Fleſh-colour, and their Buttons are of a deep Purple; the Style which riſes in the Centre, is much longer even than theſe: it is beautifully terminated by a Stigma divided into three Parts, and of a purpliſh Colour.

Nature, not to laviſh all her Treaſure upon one Flower, has denied this Fragrance. One Senſe is fully ſatisfied with it, and even more, for in the Sun the Eyes ache to look upon it.

To know its Claſs in the LINNÆAN Syſtem, no more is needed than to count theſe Filaments, and the Style; they are ſix, and that is ſingle; the Plant therefore belongs to the *Hexandria Monogynia*.

Culture of the GUERNSEY LILLY.

The Plant, though named from *Guernſey*, is a Native of *Japan*; there it flowers wild all Autumn in the Sands; and from thence it has by ſome Chance been thrown upon the Coaſt of that Iſland, and is an Ornament to all its Gardens.

The Roots are generally brought over thence in the beginning of Autumn; and when they have once flowered, are neglected, under a Notion that they will not eaſily be brought to it again; but with the Method we ſhall direct, they will flower with us the ſucceeding Years better than the firſt, and afford Off-ſets that will alſo riſe to flowering.

As there will be upon this Plan, but the Neceſſity of once ſending for the Roots from *Guernſey*, let due Care be taken in that firſt Operation.

Dec.

Let not our Gardener receive them as they come; but ſend over his Directions to ſome careful Perſon to mark the beſt Roots, and take them up as ſoon as the green Leaves which ſucceed the Flowers are decayed.

For their Reception let the following Compoſt be prepared.

Mix a Barrow of Mould from a rich dry Paſture, with half a Barrow of Wood-pile Earth, a Buſhel of rotted Cow-dung, and half a Buſhel of River-Sand; ſcatter over this a quarter of a Pound of Salt, and leave it to the Weather.

When the Roots come over, fill up half way with this Compoſt, as many Pots as there are of them; ſet one Root upon the Earth in each, very evenly on its Bottom; and fill up the Pot with more of the ſame Compoſt, till the Top of the Root is covered an Inch.

Give all the Pots a very gentle Watering, and let them be ſet in a ſhady Place.

Here they are to ſtand till the Shoot of the Flower-ſtalks appears; this will be toward the Beginning of *October*; and they are then to be ſet out in an opener and warmer Place, but defended againſt ſharp Winds; and here they are to be at Times refreſhed with Water that has ſtood ſome Hours in the Stove, if there be that Convenience.

The Flower-ſtalk will thus gradually riſe to its natural Height, and the Flowers burſt their Scabbard and gradually open.

They muſt then be placed where Rains cannot injure them; and where the Sun has not too much Power; and they will thus continue three, four, or five Weeks in full Glory.

This will be the firſt Reward for the Labour we propoſe in their Culture; but this will be far from the whole.

Theſe Roots may be brought to flower annually, and all that Time will be raiſing a Supply for ſucceeding Seaſons. To this Purpoſe let our Gardener manage them thus.

Dig up a Piece of Ground in the Seminary, big enough to hold all the Pots. Set them up to the Rim in the Earth, as ſoon as they have done flowering; and place over the whole Bed ſome tall Hoops.

Upon theſe in bad Weather draw a Cloth; but in milder Time let them ſtand open all Day. Thus they will be preſerved through Winter; and in the Summer they are to be managed as we have already directed.

Toward *July* when the Root is preparing for its Shoot, let an Inch depth of the Earth in the Pot be taken off; and freſh Compoſt of the ſame Kind put in its Place; and every third Year let the Roots be taken out of the Pots, cleaned and placed in them again with freſh Compoſt.

This is to be done as ſoon as the Leaves are entirely decayed, and the Off-ſets are to be then taken off, and raiſed in ſeparate Pots. They will come to flower in about three Years.

3. FRINGED NARCISSUS.

P. XVI. Fig. 3. This, tho' far from the moſt elegant of the *Narciſſus* Kind, is valuable on Account of the Seaſon; and, with right Management, it will annually rear its Head among the Snow in the ſevereſt Winter, and add to the ſmall Number of Flowers at ſuch Seaſons.

Our People call it the Winter Daffodil, and the common Writers, *Narciſſus totus luteus medius.* Its proper Name is *Narciſſus ſpatha uniflora nectarii limbo campanulato, profunde ſecto:* Single-flower'd *Narciſſus*, with the Edge of the Nectarium broad, and cut into Segments.

The Root is a ſmall Bulb.

The Leaves are very long, of moderate Breadth, and of a fine green.

The Stalk riſes in the Midſt of theſe, and is of a pale green, a Foot in Height, and tolerably firm. On its Top ſtands a ſingle Flower, ſo heavy that it droops. This riſes from within a plain oblong Scabbard, which, when it has perform'd the Office of ſhielding the Bud, droops and withers.

The Flower is large, and not without its Beauty.

Its Colour is a very fine yellow; and the Diſpoſition of the Petals, and Edging of the Cup, give it a conſiderable Degree of Elegance.

The whole Flower conſiſts of a Nectarium and ſix Petals. The Nectarium riſes hollow from its Baſe, and ſpreads to the Rim; and this, from its Shape reſembling a Cup, is call'd the Cup of the Flower; a very improper Term, becauſe it confounds this Part with the Perianthium or proper Cup, in which Flowers are plac'd; and the Office of which is ſupply'd by the Scabbard in this Inſtance.

The Petals are ſix in Number, and they are inſerted into the Nectarium on the Outſide, a little above the Baſe.

The Nectarium in this Species is naturally divided at its Edge into twelve Segments, which are jagged at their Sides, and of a pointed Form: theſe the Luxuriance of Culture will divide more deeply, in a curl'd Manner, and edge the Rim of this Part with a perfect Fringe.

The Seed-veſſel is roundiſh, but ridg'd, and the Seeds are numerous and roundiſh, with an Appendage.

The Claſs of this Plant will be immediately determin'd by opening a Flower; ſix Filaments and a ſingle Style will be found in it; and the Student who has thus far purſu'd the Courſe of the Science, will find no Difficulty to determine that it belongs to the *Hexandria Monogynia*, the ſixth Claſs and firſt Section.

Culture of this NARCISSUS.

This is one of the hardy Daffodils that ſtand our worſt Seaſons, and flower with little Care from the Gardener.

It may be rais'd from Seeds, but that is a tedious Method; for, according to the common Practice, it will be five Years before the Seedlings flower; and, with the beſt Methods I have ſeen try'd, they cannot be brought to it in leſs than four.

The Method we ſhall recommend for this Kind is therefore by Off-ſets, which the Plant produces in a great Abundance, and which ſhould be planted in a Bed of freſh Paſture Earth, with a very little Cow-dung well mix'd among it; and never taken out of the Ground, except to part the Off-ſets from them, once in three Years.

The Method of raiſing *Narciſſus's* from Seed we ſhall deliver under a ſucceeding Head, ſpeaking of ſome of the finer Kinds; and to that Place alſo we reſerve the Management of the Roots of ſuch Species. This which we intend ſhall flower at the preſent Seaſon, will ſucceed the better for being left abſolutely to Nature; and it requires no more Care than clearing the Bed from Weeds.

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4. LIRIA.

P. XVI. Fig. 4. This Plant, tho' ſuperior to moſt we cultivate, is little known in our Gardens. 'Tis ſtrange we have not introduc'd it more frequent there, ſince we familiarly raiſe many from the ſame Quarter of the World: but this is not the only Neglect of which we may complain; too many of the late Writers on Botany have paſs'd it over unnotic'd; and thoſe who have nam'd the Plant, have ſo imperfectly explain'd its Structure, that there requires a particular Conſideration for the Generical Character.

The Cup is a permanent Spatha, naturally burſting into three narrow Parts.

The Corolla is form'd of ſix Petals, irregular in Form, Shape, and Diſpoſition. There are three upper ones, and three lower:

The three upper are broad, oval, and pointed, and theſe form a kind of Hood.

The three lower are long, narrow, and hang down, making an under Lip. The ſix do not unite at their Baſes.

The Filaments are three; they are long, ſlender, and terminated by oblong Antheræ.

The Piſtil was wanting in the only Flower I have had Opportunity to examine; nor have I ſeen the Seed-veſſel.

Theſe Deficiencies in the Character muſt be ſupply'd by thoſe who raiſe it, or who viſit *Africa*.

The Structure of the Flower abundantly diſtinguiſhes it from all the hitherto eſtabliſh'd Genera.

Pl: 16.

Persian Cyclamen
The Guernsey Lilly
Fringed Narciſsus
Liria
Stellate Nyctanthes
Double Indian Nyctanthes
Prickly Spotted leav'd Aloe

J. Hill delin et sculp.

All who have mention'd it have ſpoke of its Beauty; but, from the Uncertainty of its Genus, they have call'd it by various Names.

Albertus Seba figures it under the Title of a *Siſyrinchium.* Breynius calls it a *Gladiolus*; adding, as the Diſtinction of the Species, *flore ſingulari miniato inferioribus laciniis luteo viridibus.* Neither of theſe Names properly belong to the Plant; for the Characters of the Flower ſeparate it altogether from thoſe Genera.

The Root is a regular Bulb, of a brown Colour and firm Subſtance.

The Leaves riſe in a Cluſter, three or four together, cloſing about one another at the Baſe; and there uſually are ſome ſmall, imperfect or decay'd ones about their Bottoms; theſe are of a yellowiſh Hue, the others of a very elegant green, of the blueiſh Tinge; and ſtain'd lightly with purple at the Baſe.

They are broad, oblong, wav'd a little at the Edges, in the Manner of the Leaves of the white Lilly; and they terminate in a Point.

The Stalk riſes in the Centre, and is a Foot or more in Height; naked, firm, purpliſh at the Bottom, and green on the upper Part.

The Top bends with the Weight of a large ſingle Flower. It is at firſt contain'd in a Scabbard, of an oblong pointed Form, which burſting into three Parts, diſcloſes the perfect Flower.

This is, in the higheſt Degree, ſingular, as well as beautiful. It is compos'd of ſix diſtinct Petals, three broad and three narrow.

The three broad which ſtand upwards, are of the moſt perfect Scarlet: the three lower are variegated with green and yellow, both very ſtrong and lively Colours, and they have their Points tipp'd with Crimſon.

In the Centre of the Flower riſe three Filaments, which have their Place under the uppermoſt Petal, and are of a pale Fleſh-Colour, with large Buttons of a deeper Scarlet than the Flower.

Down the Middle of each of the lower Petals there alſo runs a Vein of deeper Red; and along the Midſt of each of the three upper, there runs a like Vein, with ſeveral ſmaller broken Lines, with the ſame Degree of Red. This gives the whole Flower a Grace unknown almoſt to any other.

To find its Claſs in the Linnæan Syſtem, no more is needed than the eaſy Taſk of counting the conſpicuous Filaments; their Number refers it to the Third of that Author, the *Triandria.*

The Plant appears, by one very ſingular Circumſtance, to have been known long ſince, tho' afterwards loſt to *Europe.*

We know how Heralds play with Nature in the Repreſentations of Plants and Animals; but, beyond a Doubt, this is the proper *Flower-de-Luce* of the *French* Arms.

Culture of the LIRIA.

The Plant is a Native of *Africa,* where it grows on the Sides of Hills, in a looſe but not barren Soil. Thence I receiv'd the Specimen of it, on which this Account is form'd; and thence the Roots may be obtain'd, as thoſe of many other of the Plants which we have deſcrib'd from that Quarter of the World, and have frequent in our Stoves.

The Time of taking up the Roots ſhould be when the Leaves are faded; and they will thus keep very well out of the Ground during the Voyage.

At their coming into *Europe* they muſt be planted each in a ſeparate Pot, with a Mixture of three Parts Paſture-Earth, and one Part Sand, and plac'd in the Shade.

Once in a Week they ſhould have a little Water till they ſhoot; and as ſoon as they do that, they muſt be remov'd into an opener Place, where the Sun has more Power; and water'd every Evening, but a very little each Time.

Toward Autumn they ſhould be remov'd into the Greenhouſe, and thence into the Stove, where, with the common Care of foreign bulbous Plants, they will produce their moſt conſpicuous and elegant Flowers.

The Plant thus once eſtabliſhed, there will be no Fear of multiplying the Roots, for they will produce Off-ſets; which being taken off once in three Years, will riſe to Perfection by the ſame Methods.

4. STELLATE NYCTANTHES.

P. XVI. Fig. 4. This is a Shrub of conſummate Elegance, and, with its Beauty, has the Advantage of a powerful Fragrance. Its Reſemblance in Flower to the Jaſmine, has occaſioned its being vulgarly call'd by the ſame Name; and by the earlier Writers alſo it ſtands rank'd under that Genus: to this Name our People annex that of its Country, and think they have ſufficiently expreſs'd it.

Linnæus, more correct and diſtinctive in his Characters, has clearly and happily pointed out its Difference from the Jaſmine, and, arranging it under a ſeparate Genus with the Name *Nyctanthes,* adds, as its Diſtinction, *foliis inferioribus cordatis obtuſis, ſuperioribus ovatis acutis: Nyctanthes,* with the lower Leaves heart-ſhap'd and obtuſe, and with the upper oval and ſharp-pointed.

In Place of the common but improper *Engliſh* Name, we have given it that of *Stellate Nyctanthes*; the Form of its Flower naturally repreſenting the Rays painted about a Star.

It is a weak Shrub of ſtraggling and irregular Growth in its natural Condition; and never ſucceeds ſo well in Gardens, as when artfully united to a ſtronger Stock by Grafting.

The Root is woody, whitiſh, and ſpreading.

The Stem is covered with a brown Bark; and the long weak Branches are of a pale green.

The Leaves ſtand naturally in Pairs, and they are of an oblong Figure, conſiderably broad, of an elegant fine green, and ribb'd with a ſomewhat paler Colour. Thoſe on the lower Part of the Branches are hollow'd in a heart-like Manner for the Footſtalk: thoſe on the upper Part are ſcarce at all indented in that Part; and they are more pointed.

The Flowers cover, in a Manner, the whole Plant, and are of an extremely pleaſing Form, divided elegantly, of a Snow-white Colour, and, toward Evening, of a moſt pleaſing Scent. Each is follow'd by a roundiſh Fruit of the Berry Kind, divided within into two Cells, in each of which is lodg'd a ſingle Seed.

The Flower is, for its Beauty, worth a cloſe Examination; and the Claſs of the Plant in the Linnæan Syſtem will ſo be eaſily diſcovered.

Its Cup is form'd of a ſingle Piece, divided into eight narrow, pointed Segments.

The Body of the Flower has but one Petal, tho' divided ſo deeply, that there appear, on a ſlight View, to be many: this is tubular a little Way at the Baſe, and is thence divided into a Number of long Segments, which ſpread wide open. Eight is the natural and moſt frequent Number; but ſometimes, from the Accidents of Growth, one is wanted, or one added.

Within the Centre of the Flower ariſe the Filaments, and they are only two: this ſhews the Claſs to be the ſecond of Linnæus, that which compriſes the *Diandria*.

The Style which riſes between theſe is ſingle, tho' divided into two Parts at the Top, and this ſhews the Plant is of the firſt Section of that Claſs, the *Monogynia*.

The Difference between this Plant and the Jaſmines is evident from the Structure of the Cup and Flower; the Jaſmine having in each but five Segments.

Culture of the Stellate Nyctanthes.

We have obſerv'd this Plant never ſucceeds ſo well as when grafted on the common Jaſmine; and the Gardeners of *Italy*, under whoſe Hands that Operation ſucceeds happily, furniſh all *Europe* with it, ready for planting.

This is the common Method by which they come into our Gardens; and, if they have ſuffer'd no Damage in the Carriage, they rarely miſcarry, unleſs by the Negligence or Ignorance of the Gardener.

We receive them in Spring; and the Perſon into whoſe Care they are given, is to treat them in this Manner.

Let a large Tub of Water be ſet all Day upon a Dunghill, in the Sun; and in this waſh thoroughly and carefully the whole Plant, Roots and Branches. See that no Moſs be left about the Roots: if any of the Branches be decay'd, take them carefully off; and if any Shoots have riſen from the Root, take them off alſo with the ſame Care: they would be of the Nature of the Stock, not of the grafted Plant.

When the Plants are thus far clean'd, ſet them in the Tub of Water, and place it ſomewhere under Shelter. Let it remain two Days ſoaking, then prune the Root; and have ready ſome Compoſt of freſh Mould and Wood-Pile Earth.

As ſoon as the Roots are trim'd, plant them in Pots of this Compoſt, one Plant in each, and ſet the Pots up to the Rim in a Bark-Bed that has but moderate Heat.

Shade them in the Middle of the Day, defend them carefully from the Cold, and water them gently once in three Days.

In about four and twenty Days they will begin to ſhoot, partly from the Stock, and partly from the Graft.

All the Buds upon the Stock muſt be rubb'd off as they riſe, for the ſame Reaſon that the Shoots were cut from the Root: they are of the Nature of the Stock, not of the grafted Plant.

Theſe being taken off, the Buds from the Graft will grow more freely.

The Plants muſt now be more frequently water'd; and the Air muſt be admitted to them in the warm Part of the Day, by raiſing the Glaſſes with a notch'd Stick.

Many Shoots will thus grow to ſome Length in a few Weeks; and they are then to be top'd, that they may have more Strength.

In the End of *May* raiſe the Pots out of the Bark; ſtrew ſome freſh Earth upon the Surface, and by Degrees uſe them to the full Air.

In the Middle of *June* take them altogether out of the Bark-Bed, and ſet them among the Greenhouſe-Plants: here they may ſtand till Autumn, and they muſt then be taken into the Greenhouſe, and plac'd free from the Branches of other Plants, and where they may have Air. Here let them ſtand till the Beginning of *November*, and then remove them into the Stove.

This is to be their Management afterwards every Year, and they will thus flower profuſely.

Their Flowers are of ſhort Duration; but there is a continual Supply for many Months when they are manag'd leſs carefully than we direct; and this Way all Winter.

The Plant, tho' brought to us from *Italy*, is a Native of *Arabia Fœlix*, and there flowers all the Year.

5. DOUBLE INDIAN NYCTANTHES.

P.XVI. Fig. 5. We here propoſe to the Attention of the Curious, the firſt of the whole Shrub Kind in Elegance, a Plant worthy all Care; and repaying all that can be taken of it, by more and richer Luſtre.

It has been called Roſe Jeſſamy, and great double *Arabian* Jaſmine: it is properly a *Nyctanthes*, as the former. BREYNIUS calls it *Jaſminum Indicum mali Aurunculi foliis flore albo pleno ampliſſimo*; and the ſame Name is copied by MICHAEL ANGELO TILLI, under whoſe Care it flowered in the Duke of *Tuſcany*'s Garden at *Piſa*; LINNÆUS, who has ſeparated it by a generical Name from the Jaſmine Kind, adds as its Diſtinction from the other Species, *Foliis ovatis acuminatis undulatis, ramis teretibus.* Nyctanthes, with oval, pointed and waved Leaves, and with round Branches.

The Root ſpreads, and is of a pale brown and woody; the Bark of the lower Part is greyiſh; the young Shoots are rounded, firm and green; and are ſometimes ſtained with a fleſhy Colour or faint Purple.

The Leaves are broad, oblong, and a beautiful Green; they are largeſt at the Baſe, waved at the Edges, and pointed at the End.

Their Colour is a very ſtrong Green; and in favourable Seaſons, their Ribs get the ſame Purple that ſtains the young Branches.

Their Manner of Growth is irregular, ſometimes they ſtand in exact Pairs; on other Parts of the ſame Plant, the two Leaves intended for a Pair, are inſerted one a little above the other; and in other Places there grow three inſtead of two together.

BREYNIUS allows the Leaves only to ſtand in Pairs; but TILLI has Authority from Nature in repreſenting them in ſome Places ternate.

The Flowers cover the Shrub in all Parts, riſing from the Boſoms of the Leaves from Top to Bottom, and terminating all the Stalks and Branches.

Their Colour is a pure White; their Form and Bigneſs that of a ſmall Roſe; and their Scent that of the Jaſmine Flower; but though fuller yet without all Faintneſs.

Toward Sun-ſet this is ſtrongeſt, and to approach the Shrub at that Time, is to remember what Poets ſay of the *Arabian* Coaſt.

It is a Native of the *Eaſt-Indies*.

The celebrated Shrub of it in the *Piſa* Garden, was ſent from *Goa*, where it is not leſs eſteemed than the moſt moſt curious of our Plants in *Europe*.

Its Claſs and Place in the LINNÆAN Syſtem, are the ſame with the preceding; but the Characters are not eaſily traced in double Flowers.

Its Culture and Management need not be made the Subject of a ſeparate Article. It may be propagated by Layers; and the ſame Care we have directed for the other, will preſerve it.

6. PRICKLY SPOTTED LEAVED ALOE.

P.XVI. Fig. 6. The Aloes all have Beauty, and their Variety is alſo a great Recommendation.

The ſame Conveniences and Care needful for one Kind will raiſe many more, and their flowering at a Seaſon, barren of moſt other Things, adds to their Eſtimation; we have for this Reaſon given the Culture of many of the Aloes; and ſhall of ſeveral more.

None claims that Regard we have ſhewn to the Genus more than this, whoſe Leaves as well as Flowers are full of Singularity and Beauty.

Many of the late Authors have deſcribed it, and moſt have taken the Name firſt given it, by the Author of the *Amſterdam* Garden, *Aloe Africana cauleſcens foliis ſpinoſis maculis ab utraque parte albicantibus noſtatis*; LINNÆUS calls it, *Aloe floribus pedunculatis cernuis, corymboſis ſubcylindricis*; Aloe with drooping ſub-cylindrick Flowers growing on Pedicles in Cluſters on the Top of the Stalk.

The Root is formed of many thick reddiſh Fibres. The Leaves riſe ſometimes naked from the Ground, and ſometimes are ſupported on a Kind of Stalk, thick, ſhort, and filmy.

They are fleſhy, oblong, and broad: their Colour is a deep Green, ſpotted on both Sides irregularly with White; and they are edged with ſharp and ſtrong Thorns variouſly diſpoſed, and terminate in a very robuſt, ſharp Point.

The Stalk riſes in the Centre of theſe Leaves, and is round, firm, upright: of a purpliſh Colour on the lower Part, and paler upwards.

The Films toward its Top are numerous tho' ſlight, and they of a mixed whitiſh green Colour, daſhed with Purple.

The Flowers terminate the Stalk in a beautiful Manner. They riſe nearly together, and they have ſeparate, long, whitiſh Foot-ſtalks; theſe ſpread out from the Top ſo as to form a Kind of Umbell, and they are long, hollow, and of a fine Red.

The Claſs to which the Aloe belongs, is to be read in theſe, and we have had Occaſion to explain it at large before; we ſhall therefore only obſerve here, that the Flower, as in other Species of the ſame Genus, is formed of a ſingle Petal, that it adheres naked to its Foot-ſtalk without a Cup; and from a long and tubular Body of an irregular Form, opens into ſix Segments at the Rim, or frequently one more.

The ſix Filaments and ſingle Style, which ſhew themſelves at the Mouth of the Flower, and are continued within the tubular Part, ſhew it to be one of the ſixth Claſs and firſt Section; the *Hexandria Monogynia*, in the LINNÆAN Syſtem, as are all the other Aloes.

Culture of this ALOE.

The Culture of the Aloe Kind, having been in general laid down before, as well as the Character of the Claſs, we ſhall not, except in Regard of ſuch Species, as from their Nature require particular Management, enlarge here by Repetition, but name the general Articles.

This is one of the *African* Aloes, which produce Suckers in Abundance, therefore it is eaſily propagated: its Soil is in its natural Climate, looſe, dry, and ſandy; therefore the general Compoſts we have directed for the Aloe Kinds, will perfectly anſwer its Purpoſe.

The Suckers are to be taken from the old Plants in the latter End of Summer, and they ſhould be laid upon a Shelf two or three Days before they are ſet: they are then to be carefully planted in middling Pots of the Compoſt, and from that Time raiſed with the ſame Care we have directed for the other Kinds.

CHAP. II.

The Management of the Flower-Garden, Green-houſe, and Stove, for this Week.

THIS Week, if the Weather be not ſo froſty as to hinder it, let the Gardener turn all his Heaps of Compoſt; digging up every Parcel, carefully breaking all Clods, and turning it up to the Air with a new Surface: when he has done this, if the Weather be dry, let him give every Heap a ſprinkling of Water, and thus leave them to the Weather.

This done without Doors, let him ſee to every Part within. Few Weeds will riſe to trouble him in his Gravel Walks, but let the few that appear be taken up, and thoſe Walks rolled firmly which are near the Houſe, that no Opportunity may be loſt of Walking when the Seaſon permits.

The Beds of Ranunculus's, Anemonies, and other choice Flowers, will now require a careful Regard: we have directed the planting them in the moſt advantageous Manner; but that Care will be loſt, unleſs all Danger be obviated at this Seaſon.

If there fall Snow it will do them no Harm; it rather ſhields them from other Injuries, than cauſes any; and mellows the Ground which it covers: but Froſt and Rain are equally deſtructive: we have directed in what Manner they are be occaſionally defended, and let it now be done upon either Occaſion.

The Conſequence of ſevere Froſt, if they be left expoſed to it, is evident; and that of Rains, if violent, is worſe. They not only may, by their own Coldneſs and Damp rot the Roots; but if they ſhould eſcape this firſt Danger, the Wetneſs of the Ground will give the next Froſts double Power upon them.

Let the Practice we directed laſt Week for the Fruit-Garden, be continued this Week in the Flower-Ground.

Let the Gardener mark out all Places where he can plant flowering Shrubs in Spring, and dig them two Spades depth.

Let the Earth that is thus thrown up, be laid in a Ridge, as the Farmers throw up their Ground for fallowing; and once in three Weeks, let it be ſtirred and freſh turned during Winter.

The Severity of the Seaſon will not allow the Green-houſe Plants to have much Air now; but for that Reaſon let there be no Opportunity loſt of giving them that Advantage, when it can be done with Safety.

Every Evening their Shutters on the Outſide of the Windows and Doors ſhould be ſhut in the worſt Weather; but when it is any Thing milder, they muſt be refreſhed with Air whenever the Sun ſhines well upon the Place.

One Kind of Reaſoning directs all this; and as we would have our Gardener underſtand every Thing he practiſes; we would imprint this ſtrongly upon his Memory.

He may be aſſured from what we have ſaid of Plants and Flowers, raiſed under Frames in Hot-beds, from what we have told him of the Management of his Kitchen Products, raiſed at theſe Seaſons, in Frames and under Glaſſes, and from numerous other Inſtances occaſionally interſperſed in our Work, that a confined Air is deſtructive of all Plants.

That which the common Products of a Kitchen Garden cannot bear, he may be ſure will prove fatal to the Exoticks in his Green-houſe; and he muſt ſet out with this general and unalterable Rule, that a Plant can no more be kept alive without freſh Air than an Animal.

In this Seaſon therefore, he is to manage carefully in guarding theſe tender Kinds from Cold, Dec. Cold, and at the ſame Time giving them ſo much Air as will prevent their Decay.

The Difference between Noon-Day and Night is very great in Point of Cold, even in the ſevereſt Seaſons: the Air of the hardeſt Time is very different when warm'd by the free Sun, and when his Influence is obſcur'd.

On this depends what we have directed for the Care of Green-houſe Plants in the Depth of Winter, and what we ſhall ſay farther on that Head: Let the Gardener keep in Mind theſe few Principles of his Conduct, and he will never err groſly.

If he ſhould keep his Greenhouſe ſhut up for a conſiderable Time together, in the ſame Manner as it is neceſſary to do in the ſevereſt Nights, he would ſee the Deſtruction of the whole Collection come on gradually; but even the firſt Notice he would receive this Way, would be ſo late, that a great deal of the Miſchief would be paſt Remedy.

The Leaves, toward the Extremities of the Branches in ſeveral Kinds, would drop off; and by that Time he had Knowledge of this, by the falling of two or three, Numbers would have loſt their Hold and Means of Nouriſhment; and, in Spite of all his Care would follow.

The Plants would be deform'd by this; and the next Stage of Miſchief would be, that the Branches, from which theſe Leaves fell, would themſelves decay; and afterwards the Whole. In the mean Time the Contagion of theſe decay'd Leaves would extend itſelf thro' the whole Place, like the Mouldineſs of a Pear or Apple in the Fruitery; and thoſe Plants, whoſe Principle of Vegetation had been ſo ſtrong that they reſiſted the firſt Miſchief, would periſh like the others from the latter.

This would be the State of a Greenhouſe ſhut up too cloſe and too long. At the ſame Time if the Intent of the Building were perverted, by leaving the Glaſſes too much open, a great Part of the Plants would periſh by the abſolute Cold: and theſe would be the moſt valuable; for the tenderer Kinds, rais'd with moſt Care and Trouble, would be nipp'd firſt.

Theſe are the Dangers of the two Extremes: this is the Seaſon in which they are moſt likely to happen; and we therefore take this Opportunity of laying it, in all its Force, before the practical Gardener.

Upon this Principle his Conduct muſt be thus regulated. Always at Night, in ſevere Froſts, the Shutters are to be clos'd; and for the greater Part of the Day; and ſometimes all Day the Windows muſt be kept ſhut.

Whenever the Sun ſhines, and the Air is clear, let them be rais'd at Noon. This muſt be done according to the Degree of Cold: if very ſevere, a little opening of them only muſt be allow'd, and for a little Time; for the leaſt will prevent the abſolute Stagnation of the Air within.

Dec. In better Days the Opening muſt be more free, and continued longer; and the Plants will, by that, be enabled to bear longer ſhutting up, if the ſucceeding Days demand it.

The Difference between a pure and foggy Air is very great. A thick Fog is almoſt as much to be fear'd in Winter as Froſt. Such an Air let in for a few Minutes, and then ſhut up in the Greenhouſe, I have known do more Miſchief in one Night, than any other Accident, under tolerable Care, could have done in a Week.

All the Time the Greenhouſe is oblig'd to be ſo much ſhut up, let the Plants contain'd in it have very little Water. They will require leſs than at other Times; and nothing will more contribute to the Damage they may receive from being kept cloſe, than the Addition of that Damp which the Warmth of the Air will raiſe from the wetted Earth.

Decay of the Parts is what is dreaded, and nothing will promote that ſo much as Cloſeneſs, Heat, and Moiſture.

The Care of the Greenhouſe being thus once well underſtood, ſhort Leſſons will direct its Management on ſucceeding Occaſions.

Every thing being well regulated there, let our Gardener look into his Stove: let him ſee by the Aſpect of his Plants, as well as by his Thermometer, that the Air is properly heated.

If the Plants ſhoot too freely, let him a little ſlacken the Degree of Fire; and if they appear faint at the Ends of the Branches, let him a little encreaſe it.

Let him now well diſtinguiſh which of his Plants will require Watering, and in what Degree. Let him uſe no Water for this Purpoſe but what has ſtood a Day and Night in the Stove, and give this very ſparingly to thoſe which moſt require it, ſuch as the Shrubs and Plants of a firmer Structure, and ſcarce any to the *Cereus* Kinds.

Theſe have no Leaves to loſe, therefore there is leſs Danger of their wanting Moiſture; but with Regard to the others, as the Heat of the Air keeps them perſpiring, they muſt be ſupply'd proportionably at the Root, or they will be ſtripp'd one by one of their Leaves, as the Plants in the Greenhouſe will from Over-cloſeneſs.

We have given particular Directions under the diſtinct Heads, for the Management of thoſe Plants of which we have treated with Reſpect to Watering; but, in general, the woody Kinds will require it moſt frequently, the herbaceous in a middling Degree, and the ſucculent leaſt.

Thoſe which require moſt ſhould have it allow'd them, not by an Increaſe of the Quantity, but by repeating it the oftener; for it will always be for the Advantage of the Plants in general, in the Stove, not to water too many at a Time, nor thoſe too largely.

SECT. II.

The Management of the SEMINARY, *for this Week.*

PLanting, Sowing, and Removing, at this Time ceaſe; it is but little therefore the Seminary requires; but whatever it does require or can admit, ſhould be very carefully executed, to ſave the Hurry of the approaching Spring.

We have directed, in a preceding Week, the Earth to be dug and thrown up in Ridges, that is intended for planting in *February:* let this be broke and turn'd in a mild Day; and thrown up in a new Ridge, that the Influence of Froſt and Winds may be receiv'd on a freſh Surface.

There is no Seaſon when a Gap or Breach in the Fences of a Seminary, can be ſo miſchievous as at preſent; it wou'd admit the cutting Winds, that will nip the tenderer of the Plants; and Vermin may get in, which will deſtroy without Meaſure. Some Kinds will bark the Trees, and others tear the Seeds out of the Ground.

For theſe Reaſons let all be kept ſecure; and let the young Trees be well ſupported by their Stakes in the Stem, and preſerved by covering the Earth about their Roots.

Cold Rains will fall at this Seaſon, and they may be as prejudicial in this Part of the Gardener's Ground as any other.

Let him obſerve whether there be any Spot where they lodge; and, if there be, cut Drains from it, to carry the Water clean off. This is not only neceſſary at this, but all other Seaſons of the Year.

In Winter a wet Ground gives the Froſt too much Power upon the Roots; and in Spring it makes the Shrubs ſhoot out too faſt.

The Buſineſs in a Seminary, is, that the Plants ſhould grow firm and ſound, which will never be ſo well enſur'd as when the Ground is perfectly drain'd.

The laſt Care in this Part of the Garden, for the preſent Week, ſhould be the looking over the Beds of Seedlings, whether of the Flower or Tree Kind.

Theſe muſt a little be ſhelter'd by looſe Straw, a Mat, or other Covering, according to their Nature, as directed under the proper Heads, if the Froſt be ſevere; and, if more remiſs, thoſe Coverings muſt be accordingly rais'd up, or taken off.

SECT. III.

POMONA, *or the* FRUIT-GARDEN.

IF the Froſt be ſevere this Week, nothing is to be done among the Fruit-Trees; but if the Weather be more open, and the Spade can be employ'd, there is no Time when it will be found more ſerviceable.

The Seaſon is about to approach for the Roots drawing Nouriſhment, and thoſe of Trees do it ſooner than moſt imagine. Therefore let the Earth now be prepar'd, to give Way to their young Fibres, and to ſupply them with proper Juices.

To this Purpoſe, let the careful Gardener dig up all the Ground between the Trees in his Orchard, a full Spade deep, picking out the Roots of Weeds as he finds them, breaking the Clods, and afterwards ſifting on a little Soot, and ſcattering over that ſome Pigeons Dung. This will break the Stiffneſs of the Soil, and by that Means give free Paſſage to the young Shoots from the Roots of the Trees: theſe Shoots will be much more numerous, by Means of cutting off the Ends of old ones, and the Manure will be diſſolved by the Rains of Winter, and thoroughly waſh into the Earth before Spring.

This Cultivation of the Ground about the Trees in an Orchard, is more neglected than any Part of the Gardener's Buſineſs, yet is there not any Thing more neceſſary.

The Condition of all Earth is this: when it lies at Reſt it grows hard and ſolid: from this State it is broken and improv'd by Digging, for the Plantation of the Trees; and when they are planted, if it be neglected, it will grow from that Time more and more firm; declining into its old natural State again.

The Induſtry of Man in Tillage gives the

Earth in Fields its great Fertility, and why ſhould it be deny'd to an Orchard.

Trees will indeed make their Way, and ſupport themſelves better than moſt tender Plants, without Man's Aſſiſtance; but they will do much better with it; and as ſo ſmall a Share will anſwer the Purpoſe, it is very wrong to with-hold that.

By this Method of digging up the Ground, and a free Uſe of the Bill and Saw, in clearing away ſome of the Branches, an Orchard may be made to produce four times its uſual Quantity.

To compleat this Work, let the Trees be thinn'd of ſome of their abundant Boughs, and the Heads reduc'd to ſuch Extent, that the Sun and Air can come freely at every Part: the Conſequence will certainly be, that the ſmaller Quantity of Wood left, will yield a much larger Produce than the Whole in its wild State would have done; and the Fruit will be much finer. The Philoſophers Paradox, That Half is more than the Whole, will be very perfectly illuſtrated in this Example.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

WE have, in the preceding Week, directed the Gardener what he is to do if the Weather at this Time prove very froſty; and ſhall now conſider it in the other Extreme of Wet.

In this Caſe, the Advice we have given him in the Nurſery, muſt be continued here. If Water lodges in any Part, it will be a certain Occaſion of Miſchief; therefore let it be taken off by a well cut Drain.

This is a Part of the Buſineſs very neceſſary to be done at ſome Time, and at none more proper than this, when the Seaſon does not require nor admit any other Hurry.

Let him next look to the Artichoke-Beds, which we directed him lately to cover with Mould: if the Froſt threaten, let a little dry Peaſe-Haulm be ſcattered over them; and, if Wet lodges, let it be in the ſame Manner carry'd away.

There is no Part of the Ground in which a Lodgment of Water will not be hurtful; no Time of the Year at which it will be more deſtructive than now: none when it ſo readily diſcloſes itſelf; and none in which the Gardener is more at Leiſure to remedy the Miſchief.

Let him therefore this, or any of the ſucceeding Weeks, when there happens much Rain, look to the whole Ground under his Care, obſerve when the Damage is like to happen, and at once prevent it, for this and all ſucceeding Occaſions.

In a mild Day let him fix upon ſome Spot for a good Crop of Peaſe and Beans.

Let him dig up the Ground, carefully break all the Clods, and then draw Lines for planting them.

The beſt Bean for this Time, is the *Sandwich*; and for this Kind the Rows ſhould be a Yard aſunder, and the Plants eight Inches diſtant in the Rows. The common Practice places them much cloſer; but they err, who ſuppoſe more Beans are produced by unreaſonably multiplying the Plants in the ſame Piece of Ground.

No Reaſoning is like Experience: and I have found, by fair Tryal, that in this Way the Ground will yield one third more Beans than when twice as many Plants are rais'd in it; and that the Beans are always ſweeter.

The Peaſe ſhould be ſown in Drills, at conſiderable Diſtance, and fewer allow'd to the Ground, in the like Manner; for the ſame Reaſoning holds good, and is ſupported by the ſame Experience, that ten Plants, well nouriſh'd, will produce from the ſame Ground more Fruit, than twenty which are planted ſo near as to ſtarve one another.

The Hotſpur is a very proper Kind for this Plantation, and they ſhould be ſcattered thin in Drills, about an Inch and half deep. The Ground ſhould be well broke over them, and they will ſhoot at their own Time, ſooner or later, according to the Seaſon; and will ripen ſo early as to ſucceed the Dwarf Peaſe rais'd in Hot-Beds, as we ſhall direct in its proper Place.

The Peaſe for that Uſe the Gardener has now growing, if he have obſerv'd carefully our Directions for ſowing them in the End of Autumn; and three Weeks hence we ſhall direct him to take them up, and forward them by this artificial Method.

Here it may be proper to obſerve, that he is by no Means to omit the ſowing Peaſe now for a natural forward Crop, becauſe he intends to raiſe ſome for that Purpoſe in Hot-Beds, for that is a tedious Buſineſs; and the firſt Peaſe that come in a natural Way are vaſtly preferable, becauſe they have their true Sweetneſs.

The Muſhroom-Beds now require a great deal of Care, but they will very well repay it by the Supply they yield.

The Gardener has ſeen from the Conſtruction of theſe Beds, that two Things principally promote the Growth of the Spawn, theſe are Heat and Moiſture: but if either of theſe be in too great a Degree, they will fail; and if very good Care be not taken at this Seaſon, ſo much Wet will get into the Beds as to drown the Spawn; and altogether rot it with that Heat which would make it ſhoot. If they be made as we have directed; they will require no more Aſſiſtance to keep in their Heat, and defend them both from Froſt and Rain, than a good Covering of long Straw.

Only let the Gardener be careful that he does not hurt what he would preſerve, by doing this heedleſsly. The Straw muſt be dry when it is laid on; and it muſt lie no longer than while it continues ſo; when it grows damp and falls, it muſt be removed, and the Place ſupplied by more.

The Cauliflower Plants which we have directed to be tended hitherto with ſo much Care, are at no Seaſon in more Danger than now.

They are under the Shelter of Glaſſes, and are in all Reſpects in the Condition of Greenhouſe Plants: therefore what we have juſt directed for the Preſervation of thoſe will keep theſe alſo in Health; and no other Way can.

The Glaſſes muſt always be let down in an Evening to cover the Plants cloſe from the Night Froſts, but towards Noon in a ſerene Day they ſhould always be opened.

If any dead Leaf appear upon them it muſt be taken off; the Mould muſt be drawn about their Stems; and it will be of Service alſo frequently to ſtir the Surface to a little Depth within the Glaſs, and to dig it up round about it.

This laſt which is not commonly practiſed is a great Aſſiſtance, for it promotes the ſpreading of the Roots, by taking off their extreme Ends, and gives them a light looſe Earth for growing.

Let this, which is the ſame Thing we have directed in the Orchard, be continued alſo to every Part of the Kitchen-Ground, where there is any Crop growing.

Beans and Peaſe which we have directed to be ſown and planted in the preceding Months, will now be up at ſome Heighth, and nothing tends ſo much to preſerve them, as this Practice of digging near their Roots.

It not only gives them a Supply of Nouriſhment, when that is ſcarce; but affords the Gardener at the ſame Time the eaſieſt Opportunity of Earthing up their Stalks, which is as eſſential to thoſe Crops meant to ſtand out the Winter, as any part of the Buſineſs.

The Bottoms of the Stalks of Beans are apt to ſtoop, and lie a little Way upon the Ground, and the cold Wet of the Surface at this Time rots them: this is prevented perfectly, by the Practice of Earthing them up.

The Mould is thus brought over them on theſe weak and half decayed Parts, and being drawn up ſome Inches of the Stem above, the whole under Part of the Plant which was moſt endangered, is by this Means perfectly ſheltered; and the Stalk riſes ſingle, bold, and upright from the Top of the Earthing, as if it had originally grown from the Seed in the ſame firm Manner.

The Stalks of Peaſe lie much more upon the Ground than thoſe of Beans, and they ſuffer in the ſame Manner from it, if unguarded at this ſevere Seaſon; the ſame Method is to be uſed of Earthing them up, as directed for the Beans; and it gives them in like Manner a Kind of new Growth.

EDEN:

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XVII.

For the third Week in *DECEMBER.*

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. PROLIFEROUS MOUNTAIN CROWFOOT.

Dec.

Plate XVII. Fig. 1.

THE extreme Singularity of this Plant muſt recommend it to the Curious; and it has Prettineſs enough to recompenſe the little Care it demands.

If it wants the full Splendor of the Stove Plants, neither does it require their expenſive Culture.

Moſt of the Writers in Botany have named it, and all under its proper Title Ranunculus, tho' with various Additions. BAUHINE calls it *Ranunculus latifolius bullatus aſphodeli radice.* LINNÆUS gives in a ſhort Name, an abſolute Deſcription, *Foliis ovatis ſerratis ſcapo nudo unifloro,* Crowfoot with oval ſerrated Leaves, and ſingle Flowers on naked Stalks.

Such is exactly the Condition of the Plant in a State of Nature, for it is the Gardener's Art that fills the Body of the Flower with cluſtered Petals, and raiſes the young Off-ſpring from its Boſom.

The Root is formed of ſeveral oblong tuberous Pieces.

The Leaves are not without their Beauty, they ſpread in a pretty Cluſter on the Ground, and have ſhort Foot-ſtalks.

Theſe are White with a light Tinge of Green: the Leaves themſelves are of a pale, but very agreeable Green; and they have a few ſtraggling whitiſh Veins. Theſe are very conſpicuous on the under Side, and the Leaves often riſe into a Kind of ſoft Lumps or Tubercles between them.

Dec.

The Shape of the Leaf is oval: it is a little hollowed in the broad Part for the Stalk, and grows narrower to a Point: the Edges are beautifully ſerrated.

Among theſe riſe the Stalks. They are numerous, ſlender, of a whitiſh Green, but tinged a little with Red toward the Baſe, and about four Inches high.

No Leaves grow on theſe: each is deſtined for the Support of one Flower, and this is in the State of Nature, large Yellow, formed of five Petals, with a great Cluſter of Filaments in the Centre, and of a light Fragrance.

In this State ſome have looked upon the Plant, as a diſtinct Species, and entitled it by another Name. DODONÆUS, has called it *Ranunculus Luſitanicus,* and our People thence the *Portugal* Crowfoot.

To this State of the Plant, we ſhall again refer the Student, when the Claſs is to be determined; but we are now to explain the Differences made in the Aſpect of the Flower by Culture.

In Nature the Petals, when the Root is well nouriſhed, will exceed the proper Number, as in our

our Meadow Crowfoots, being ſometimes ſeven or more; but luxuriant Art makes them innumerable, and adds the pleaſing Wonder of a ſecond Production.

On the Top of each Stalk, as it firſt riſes from the Root, appears a green, oval Button, tipped with Gold: this as the ſmall Stalk riſes in Height, ſwells and expands, till by Degrees it grows in the full Luſtre of a double Flower compoſed of Multitudes of narrow and ſharp-pointed Petals in various circular Series; and all of a delicate Yellow.

In the midſt are buried ſome fine Threads with thin Buttons, which impregnate the Rudiments of many Seeds, appearing afterwards in an oblong Cluſter.

In this State the Flower has great Beauty and Singularity of Aſpect: the pointed Form of the Petals, gives it this Peculiarity, and if brought without the Leaves to a common Obſerver, he would call it a Yellow Hepatica.

This however is not all the Luſtre to which it may be brought. Where the Soil ſuits, and no Negligence or Ignorance of the Gardener prevents, there will in the moſt vigorous Plants appear on ſome Stalks, the proliferous Flower, we have repreſented in the Figure.

In theſe, the firſt Structure is the ſame as in the others, but from the Centre there riſes a ſmall Stalk, ſupporting on its Top a Repreſentation of the firſt in Miniature.

The little Flower is formed exactly as the larger, but the Colour is fainter; the Bottom where it joins the Stalk, is White; the firſt Series of Petals, are alſo White tipped with Green, and tinged with a little Yellow; and the reſt are of a fainter Yellow than thoſe in the original or lower Flower.

Such is the elegant Aſpect of this Species in its beſt State: but even here what Nature gives in one Inſtance, ſhe reſtrains in another; the Flower thus rendered double and proliferous, loſes its natural and original Fragrance.

To know the Claſs to which this Plant belongs in the LINNÆAN Syſtem, the Student muſt examine a ſingle Flower. He will find this placed in a Cup formed of five oval Leaves, lightly tinged with the Colour of the Flower, and they fall alſo with it.

The Body of the Flower he will ſee compoſed according to the Condition of the Plant, and various Degree of Nouriſhment, of an uncertain Number of Petals, but not leſs than five, and in its Centre he will find a great Number of Filaments, crowned with oblong, obtuſe, and doubled Buttons; in the Centre of theſe he will ſee a Cluſter of Rudiments of Seeds; whoſe Styles are ſo ſhort, that they are not diſtinguiſhable, but with ſmall reflex Stigmata, or Tops.

One Obſervation more leads him to the Claſs of the Plant; but without that he may under this Degree of Knowledge err: let him examine whether theſe numerous Filaments riſe from the Receptacle, or from the Inſide of the Cup.

We have before explained to him, that this Circumſtance makes the Diſtinction between the twelfth and thirteenth Claſs in the LINNÆAN Syſtem; the *Icoſandrous* and the *Polyandrous.*

In this Plant they riſe from the Receptacle, therefore it is one of the *Polyandria*; and the numerous Rudiments of Fruit, declare it alſo one of the *Polygania.*

We have before told the Student, that where the Styles are too ſhort for Inſpection, the Number of theſe Rudiments and Stigmata (Parts properly affixed to the Heads of Styles) ſhews the different Order.

The Genus of Ranunculus under this Claſs, is diſtinguiſhed by a peculiar Mark, the Nectarium; this is a little Hollow containing in its Bottom a minute Gland, and ſituated near the Baſe of each Petal.

In the moſt double Flowers, this is leaſt conſpicuous, but the Student is not to ſuppoſe the Plant of any other Genus, ſhould this be wanting in ſuch Flowers entirely; for we have told him, where theſe are ſo luxuriant, the diſtinctive Parts are moſt difficulty ſeen; and often loſt entirely.

Culture of this CROWFOOT.

It may be raiſed from parted Roots; but it is beſt produced from Seeds. Theſe rarely ripen in the proliferous Flowers; but as there are uſually ſome which are not proliferous from the ſame Root with thoſe that are; let the Gardener ſave his Seeds from theſe.

Let him cut off the proliferous Flowers from ſuch a Plant, as ſoon as they ſhew their Nature; and then digging about the Root, and gently Watering it, raiſe the other Flowers upon their Stalks, to the moſt full Perfection for ripening the Seeds.

Theſe let him collect by cutting off the Heads as ſoon as they change Colour: let him lay them on a paper'd Shelf, and the Seeds will fall off after they are hardened. Then let him ſpread them to harden more perfectly; and after ten Days tie them up in Papers for the proper Seaſon.

The laſt Week in *Auguſt*, dig up a Border in a warm Part of the Garden, cover it five Inches with freſh Mould, from a dry rich Paſture, and ſcatter on theſe Seeds.

Sift over them a quarter of an Inch of any of the light Compoſts we have directed for other Plants, and lay ſome Pieces of Furze Buſh upon the Ground.

Here let the Plants take their Courſe; and they will do better than with all the idle Arts of Culture.

When they have ſome little Strength the ſucceeding Spring, thin them by taking up the weakeſt, and plant theſe in other Parts of the Garden; leaving the others at eight Inches Diſtance in their original Bed: from this they are never to be removed until the Roots want parting, and here they will flower more glorioully than with any Art.

This is the Method I have practiſed: this the Inſtruction I wiſh every where to lay before the Reader: Rules eſtabliſhed on my own Experience, not taken from the common Books, Retailers of one anothers Folly.

2. SPIRAL VALLISNERIA.

Plate XVII. Fig. 2.

Here we propoſe to the Attention of the Curious indeed a Wonder; a Plant worth all the Pains that can be taken to raiſe it in our Country; and of all that can employ the Mind upon the Miracles of Vegetable Nature, the firſt, greateſt, and moſt worthy.

We know that in the Generality of Plants, the Seeds are impregnated from Organs ſituated in the ſame Flower; and that in ſome theſe neceſſary Parts are plac'd on other Shoots of the ſame Species.

The common Spinage ripens no Seeds if the Male Plant be pull'd up; and the Female Palm pines in Barrenneſs, till her Male Conſort riſes above the ſurrounding Trees, and gives to the looſe Winds that Duſt they waft to her.

In all this, ſtrange as it appears, the two Plants hold their Places, and each Kind of Flower remains on its own Stalk; but, in the preſent Inſtance, there is almoſt the Animal Power of Loco-Motion.

The Male and Female Plants grow ſeparate at the Bottom of the Waters; but 'tis not under them that the Impregnation can be made.

The Female raiſes her Flower upon a ſpiral Stalk; which, accommodating itſelf to the Depth of Water, and even to the Riſe and Fall of Tides, keeps it always juſt upon the Surface.

The Male Flower mean Time opening far below, when it is ripe for its deſtin'd Office, breaks from its Stalk entire, riſes to the Surface, and floats upon the Water, till the Current or the Motion of the Air brings it to the Female, its deſtin'd Spouſe.

The earlier Writers were not acquainted with the Plant; but ſince Boccone and Micheli all have nam'd it with due Admiration.

The firſt has join'd it with a very unlike Genus, the Pond-weeds, and calls it *Potamogeton Algæ folio Piſanum* *.

Micheli nam'd it *Vallisneria*, after a very eminent Botaniſt, Vallisnieri: a Cuſtom well eſtabliſh'd, but of late ſo much abus'd by the Uſe of unworthy Names, that it is beſt rejected.

That Author calls it the female Plant *Valliſneria paluſtris algæ folio Italica foliis in ſummitate denticulatis flore purpuraſcente* †: and, not perceiving the Male Plant roſe from the ſame Seeds, and only differ'd in Sex, he nam'd that diſtinctly *Valiſnerioides*; adding, *paluſtre algæ folio Italicum foliis in ſummitate tenuiſſime denticulatis floribus albis vix conſpicuis* ‡.

Linnæus, and the other late Enquirers, found the two Plants, differ'd in Sex, not Species; and as there has been no other diſcover'd of the Kind, they retain ‖ the Name *Valiſneria* without Addition.

The Root creeps under the Surface of the Mud, and is white, ſlender, and hung with many Fibres.

The Leaves are very long, narrow, wav'd at the Edges, obtuſe at the End, and all along the upper Part edg'd with the fineſt Serrative that can be conceiv'd.

Theſe riſe in a Cluſter from the Root, and at their Baſe have a Tinge of Crimſon: the reſt is of a very beautiful green; and there run a few Ribs lengthwiſe, which are reddiſh toward the Bottom of the Leaf, and upwards whitiſh; with Fibres of a pale green between them.

With Reſpect to the Flowers and their Stalks, we are to conſider the ſeveral Plants diſtinctly.

In ſome, which are the Male Plants, there riſes among the Leaves a very ſhort, ſlender, and plain Stalk, ſupporting a Spike of little Flowers.

Theſe are white: they are defended by a common Scabbard, which ſplits into two oblong narrow Parts; and each of theſe is again divided at the End, and turn'd back.

The Ear, which this defends in its Infancy, is covered all over with theſe minute white Flowers. Each is form'd of a ſingle Petal, divided to the Bottom into three Segments: and theſe are broadeſt at the Extremity, obtuſe, and turn'd back.

Theſe contain the Male Parts for Impregnation; and, as they ripen the ſmall Buttons on their Filaments, they ſtart from the common Ear, and riſe to the Surface of the Water, where they float in ſuch Number, that in ſome Places the Whole appears covered with them as a looſe white Duſt: then the Buttons, which had receiv'd Maturity under the Water, dry, and become fit for their Office.

This is the Male Plant call'd *Valliſnerioides*.

The Female ſends up among the Leaves many Stalks, which are ſlender, purple at the Bottom, and upwards of a whitiſh green; and, for two thirds of their Length, are twiſted ſpirally. Their Subſtance is tender, with a conſiderable Degree of Elaſticity; and may be drawn by pulling out to a greater or leſſer Length.

The Purpoſe of Nature is, that theſe female Flowers ſhould float exactly upon the Surface, that they may meet the looſe and ſcattered Male ones: the Stalk therefore unwinds its Folds, ſo far as to reach that Surface, and maintains the Place for the Flower, by lengthning or contracting the Spiral Part upon all Occaſions.

There are no Leaves on theſe Stalks: one Flower is ſupported on the Summit, and this is very ſingular. The Scabbard, ſerving it in the Office of an outer Cup, is long, and of a cylindric Figure, but ſplit into the End into two Parts.

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* Boccone Muſæum, 1. p. 29.

† Micheli Genera Plantarum, 12. t. 10. f. 1.

‡ Micheli Gen. Pl. t. 10. f. 2.

‖ Dalibord, Linnæus, Van Royen.

Theſe do not turn back as in the Male's Scabbard. Within this riſes the proper Cup of the Flower, and this is plac'd on the Rudiment of the Fruit, and at the Top is divided into three oval Segments.

The Flower itſelf is form'd of one Petal, divided into three Parts, which are of an oval Form, convex, and plac'd upon the Cup. The Cup is green, and the Flower of a faint Crimſon. Within the Flower are three Points, one plac'd on each Petal, and theſe are the Nectaria. Their Colour is a fainter red.

The Male Flowers having all riſen to the Surface, the Ear they cover'd withers; but, after each Female Flower, comes a Seed-veſſel; this is oblong, cylindric, and contains numerous oval Seeds.

Thus the more Curious have deſcrib'd its Flowers, and general Manner of Fructification; and thus Linnæus, with the reſt, have taken the Account. It is confirm'd to me, with the Addition of the Particulars here nam'd, by late Letters of Signor Bruni, ſo that I can in no Reſpect doubt the full and exact Circumſtances, tho' no more than the Author juſt nam'd I have been able to obtain a Sight of its moſt ſingular Flowers §.

The Place this Plant claims in the Linnæan Syſtem, is declar'd already in its peculiar Character, of having Male and Female Flowers on ſeparate Plants; all which are of that Kind, being rang'd by that Author in his Twenty-ſecond Claſs, the *Dioecia:* but to find under what Section in that Claſs it is to be plac'd, the Male Flower muſt be examined for the Parts of Impregnation.

In this there ſtand two upright Filaments, of the Length of the Flower, crown'd with oblong Buttons. This Number of Filaments, which is in the other Claſſes a primary and conſtitutional Character, in this becomes only the Mark of a ſubordinate Arrangement.

There is no Plant of the *Dioecious* Tribe, whoſe Male Flower has a ſingle Stamen: this Number is the ſmalleſt known; and the Plant therefore belongs to the firſt Section.

Culture of the Vallisneria.

The Plant is a Native of *Florence*, and ſome other of the warm Parts of *Europe*, where it flowers annually in their Ditches; the Whole, except the female Flowers, remaining under Water.

Linnæus thinks he has ſeen it in colder Climates, but without its Flowers.

It is evident from this by what Means it muſt be rais'd here.

The Roots of Water-Plants are very full of Life; and theſe taken up with a good Lump of the Soil from the Bottom, may be very well brought to *England* in a Condition of Vegetation.

They ſhould be Roots of young Plants which have never flower'd; for the Principle of Vegetation is in theſe much ſtronger than in ſuch as have anſwer'd the Purpoſe of Nature by ripening their Seeds.

For the Reception of theſe there ſhould be ſelected ſome warm Corner of a Canal or Pond, where the Depth is not too great, and the Bottom a rich Mud.

In this the Roots ſhould be planted with Care, cloſing the Soil about them, and Art can do no more. They will live in leſs favourable Situations; but where they ſtand ſhelter'd from cold Winds, open to the South Sun, and at a Depth where its Rays may reach the Bottom, they will have a fair Chance to flower.

After they have ſhot, it will be proper to keep them entirely clear from Weeds; and with no farther Care they will naturally ſucceed.

The Shallowneſs of the Water will be a very eſſential Article in their Favour; for as the Difference between us and *Italy*, to a Plant which grows naturally under Water, is principally in the Heat that Water has during the Summer Months, this may be aſſiſted by the Shallowneſs; the Water of little Depth being always in the ſame Pond conſiderable warmer than what has more.

3. PECTINATE-LEAV'D OTHONNA.

Plate XVII. Fig. 3. This is a Plant whoſe whole Aſpect will aſſiſt in recommending it to the Curious. The Flowers, which are numerous, do not want their Beauty; but there is alſo a great deal in the Growth and Figure of the Plant, when properly manag'd, and not a little in the Leaves.

Many of the later Writers have deſcrib'd it; but, till the Time of Linnæus, its proper Genus has not been well eſtabliſh'd. To this it is owing that we read of it under various Names. The ſyngeneſious Plants, like the bulbous, had been very ill diſtinguiſh'd, in Reſpect of their Generical Characters, till this Author took them under a more ſtrict Conſideration.

Plukenet has figur'd it under the Name of *Jacobæa Abſinthites* — and Commeline retaining the ſame Generical Term *Jacobæa*, adds, *Africana fruteſcens foliis abſinthii umbelliferi incanis.*

Linnæus diſtinguiſhing many of theſe Plants under the Name of *Othonna*, adds, as the ſpecific Character of this, *foliis pinnatifidis, laciniis linearibus parallelis: Othonna* with pinnatifid Leaves, and narrow parallel Segments.

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§ Nunquam nobis licuit deſideratiſſimos intueri flores. Linnæus, Sp. Pl.

The Root is woody, brown, divided, ſpreading, and hung with many Fibres.

The Stem is alſo woody, and is covered with a rough brown Bark, and with the Remains of many fallen Leaves, whoſe Footſtalks are more durable.

The Branches are numerous, and their Bark is greyiſh.

The Leaves are ſcattered over them without Order, and they are of a pleaſing Figure; they are oblong, conſiderably broad, and divided on both Sides almoſt to the Rib, into a great Number of long, narrow, and parallel Segments, like the Teeth of a Comb, running a little obliquely.

The Colour of theſe is a whitiſh green, and they are hoary.

The Footſtalks are ſometimes reddiſh; and the Rib in the Middle is frequently a little ting'd in the ſame Manner.

The Flowers are large and yellow; they are plac'd on long, ſlender, whitiſh and hoary Footſtalks, terminating the Tops of the Branches, and are not without their Beauty: they are of the radiated Kind, and have the Rays particularly long: theſe are of a very fine ſtrong yellow; and the Diſk in the Centre, which is ſmall, is of a very deep Tinct of the ſame Kind.

The Seeds are numerous, and wing'd with Down.

The Flower is of an unpleaſing Smell; but the Leaves when rubb'd in the Hand are not diſagreeable; and in Taſte they ſtrongly reſemble a Carrot.

The Cup in which the Flower ſtands, is form'd of a ſingle Piece, and is of a plain Structure, hollow, and at the Rim divided into eight Segments.

The Floſcules contain'd in the Body of the Flower are of two Kinds, tubular and ligulated: theſe Terms we have explain'd, treating of other of the compoſite flower'd Plants.

The tubular Floſcules occupy the Centre, and are numerous: the ligulated Floſcules are few, and ſtand at the Verge.

The tubular contain five Filaments, whoſe Buttons are of an oblong Form, and unite in a Cylinder; and in the Midſt of theſe is plac'd a ſingle Style.

In the ligulated, which are female Floſcules only, there are no Filaments; theſe contain the Rudiment of a Seed, from which riſes a ſingle Style, ſplit at the Top.

This Structure of the Flower ſhews its Claſs in the LINNÆAN Syſtem; the Coaleſcence of the Buttons in the tubular Flowers, ſpeaks it one of the *ſyngeneſious* Tribe; and the Seeds ſo rarely ripen in the Center under the tubular Floſcules, and ſo regularly under the ligulated ones, at the Verge, that it is ſeen to be one of the *Polygamia neceſſaria*, thoſe in which the various Method of Impregnation is not ſuperfluous.

Culture of the PECTINATE OTHONNA.

The Plant is a Native of the *Cape of Good Hope*, where it naturally thrives in a mixt Soil of Mould and Sand, in Places that have Moiſture. This indicates the proper Manner of its Culture with us. There muſt be prepar'd for it a mellow Compoſt, and it muſt have the Shelter of the Greenhouſe to keep it alive thro' Winter; and, to give it the full Luſtre in flowering, the Stove.

Let the Compoſt be made thus:

Take up a Barrow of rich black Mould from under the Turf in a Meadow; put to this a Buſhel of coarſe Sand, a Buſhel of Pond-Mud, and a Peck of rotted Cow-dung: ſtir all theſe together, and lay them up for Spring.

In this the Plant may be propagated by Cuttings, in the ſame Method we have directed for other *African* Kinds; but the beſt Way is to raiſe it from Seeds.

Theſe need not be brought from *Africa*; for thoſe which ripen here will very well do the Buſineſs.

They muſt be ſown at the End of *February*, upon a moderate Hot-Bed, and the Plants rais'd in the uſual Way, till they are large enough for potting; then they muſt be planted ſingly in Pots of a moderate Size, fill'd with the Compoſt, and ſhaded under a Frame, and water'd till well rooted: after this they muſt be brought into a warm Part of the Garden, and ſet in the open Air till the Approach of Autumn, and then remov'd into the Greenhouſe.

If they are thence taken into the Stove about the Middle of *October*, they will be brought to flower at this Seaſon in greater Perfection, and with much more Luſtre than older Plants.

Their Leaves thus are numerous and full of Vigour: the Stem is covered with them to the Bottom, which is not the Caſe in older Plants kept in the common Way; and the Number of Flowers, the Contraſt of their gold yellow, with the ſilvery grey of the Leaves: and the red upon the Stalk, gives a conſummate Beauty, no Part of which is ſeen on the Plant when ſtarv'd and ill-manag'd.

4. SCARLET CYNOMORIUM.

Plate XVII. Fig. 4.

The *Vallisneria* itſelf is ſcarce a ſtranger Plant than this; and few have more Beauty. Were there nothing to recommend it but the high Colour, and the Form, the Want of Leaves and ſcaly Armament, it would deſerve all Notice; but there is a Singularity and extreme Prettyneſs in the faint Manner of its flowering.

Many of the late Botaniſts have nam'd it; but, till MICHELI, all with great Miſtakes as to its Nature; and, till LINNÆUS, in its Claſs.

Its Form, Subſtance, and want of Leaves, have caus'd them to call it a *Fungus.*—BOCCONE has nam'd it *Fungus Typhoides — Catſtail Muſhroom*; a Name not unaptly repreſenting what is ſometimes its Figure.

PETIVER has call'd it *Fungus Mauritanicus ruber verrucoſus.*

MICHELI gave it the Name *Cynomorium*, which the *Greek* Reader, who obſerves its Figure and Colour, will find more expreſſive than decent; and this LINNÆUS has retain'd, as there is no other Species, without Addition.

The Plant is eight Inches high; and, under different Circumſtances of Growth, it appears in various Forms; but, when the Soil and Situation favour its flowering, the Whole aſſumes a tolerably regular and conſtant Figure.

The Root is a light roundiſh and irregular Lump, lodg'd at a ſmall Diſtance below the Surface: and, when it is imperfectly nouriſh'd, the whole Plant often lies upon, or in Part under the Mould, in ſeveral thick irregular Pieces, with large Heads.

Sometimes the Root lies naked in the Soil; but as it is eaſily diſturb'd and thrown up from its Place, Nature has provided for its Security, by a Property it has of growing round about the Roots of other Plants, and incorporating them into its Subſtance.

Every one has ſeen how Straws and Blades of Graſs are ſometimes embodied in a Muſhroom, that light and quick-growing Subſtance having ſurrounded them. In the ſame Manner the tuberous Bottom of the *Cynomorium* often ſurrounds the fibrous Roots of Shrubs, and ſometimes grows to a large Part by its firm Subſtance, the Mark remaining when ſeparated.

From this Root riſes the Body of the Plant, ſmall at the Bottom, irregularly thickning upwards, and at the Extremity ſomewhat leſs again.

At its firſt Appearance the whole Subſtance is covered with little Scales, thick ſet by one another, and of an oval pointed Form, ſharper toward the Bottom of the Plant, and thinner upwards.

In this Form it ſtands a conſiderable Time, a Crimſon Lump, ſhewing itſelf about three Inches above the Surface of the Ground; but when it riſes to flowering, the Growth from that to its full Height is very quick.

This lower Part retains its delicate Crimſon and thick ſcaly Covering, but the reſt is of a fine Scarlet, lightly covered with looſe and broader Scales, indented uſually at the Top: theſe retain ſomething of the Crimſon Tinct of the lower Scales, while the naked Subſtance between them is of this fine Scarlet; and from this naked Part from under the Scales, and often without them, riſe the Flowers, covering the whole Subſtance. Theſe are very ſmall, and of two Kinds, irregularly intermixt with one another, Male and Female; but they have few Parts, and are not very conſpicuous.

There is no Corolla or Petalous Ornament. The Male Flower conſiſts only of a ſingle Filament, firm, rigid, and of ſome Length; of a pale Fleſh-Colour, and terminated by a Button; ſplit at the End, and ſeeming double.

As this Flower conſiſts only of a Filament, the Female has no more of the Parts of a Flower, than a Style riſing from the Rudiment of the Seed: this is firm as the Male Stamen, and of a duſkier Colour, and it is terminated by an obtuſe purple Stigma.

This is the Conſtruction of the ſeveral Flowers: the Male are of ſhort Duration, but the others, after ſome longer Continuance, leave behind a roundiſh ſhining Crimſon Seed.

The Claſs of this moſt ſingular Plant is pointed out very obviouſly in the Deſcription; or on a careful Obſervation of the growing Plant; it is the Twenty-firſt in the LINNÆAN Syſtem. That Claſs, under the Term *Monoecia*, comprehends all thoſe Plants whoſe Male and Female diſtinct Flowers grow on the ſame Individual. This is plainly one of them, and one of the moſt ſingular.

Culture of the CYNOMORIUM.

Some have imagin'd this one of the Paraſitical Plants, ſuch as Miſletoe, which cannot grow except upon the Subſtance of ſome other; but this is not the Caſe; therefore there will require leſs Trouble than might be imagin'd to raiſe it. Due Warmth it will require, but nothing more.

It grows in the *Greek* Iſlands, and in ſome of the warmer Parts of *Europe*, on the Sea-ſhores, and alſo far on Land; ſo that neither is Salt-Water needful to its Support. The Seeds will grow freely enough; and from theſe Circumſtances it will be found no Way incompatible with the common Culture of the Stove-Plants.

The firſt Article toward raiſing it muſt be to get good Seeds, and theſe ſhould be obtain'd from the *Levant*.

The Plant is not uncommon in *Italy*, but it rarely flowers there, and ſcarce ever brings Seeds to Maturity. Therefore let them be had from elſewhere, and there will be no Difficulty; for the Plant is gather'd for Medicinal Uſe in thoſe Iſlands, being a very powerful Aſtringent; and, in the drying, Multitudes of ripe Seeds fall out.

Let a Compoſt be made for theſe of two Parts Meadow-Earth, and one Part large coarſe Sand; and let it be wetted a little with Brine.

On the Surface of this, in a middle-ſiz'd Pot, ſcatter ſome of the Seeds. Sift a little more of the ſame Compoſt over them, and place the Pot in a Bark-Bed in Spring.

Other Seeds ſhould be alſo ſcattered upon the Surface in the Pots of two or three of the Stove-Plants, which riſe with a ſingle naked Stem; and there left to take their Chance.

Thoſe in the proper Compoſt, and with the Advantage of the Bark-Bed, will ſhoot ſooneſt; but 'tis not improbable the others will make the ſtrongeſt Plants.

No particular Care need, after this, be beſtow'd upon them: they may take their Chance among the other Pots of Stove-Plants; and, if they never flower, there will ſtill be great Singularity and Beauty in them; but if they do, there will be, beſide their greater Elegance, the Certainty of continuing them; for their Seeds will not fail to grow in the ſame Place where they have ripen'd.

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5. MAMILLARY CACTUS.

Plate XVII. Fig. 5. The Singularity of this Plant brought it early from the warmer Climates, into our *Engliſh* Gardens, and all the late Writers have cebrated it for the Peculiarity of the Form.

PLUKENET has called it *Ficoides*, and *Melocactus Mamillaris*; HERMAN, *Echino Melocactus*; and COMMELINE, *Ficoides, ſive Ficus Americana.* LINNÆUS who has done great good to the Science, by reducing this large Genus, called by various Names under one common Head, the *Cactus*; adds, as the ſpecifick Diſtinction of this, *ſubrotundus tectus Tuberculis ovatis barbatis.* Roundiſh covered Cactus, with oval bearded Tubercles.

The Root is divided, ſpreading, and full of Fibres.

The Plant burſts at once from the Surface, without Stalks or Leaves; in Form of a globular green Maſs, with an uneven Surface: This riſes in Height, alters its Form in nothing but that the whole becomes ſomewhat oblong, and the rough Surface breaks into more diſtinct Tubercles.

When arrived at the full Growth, it is ſeven Inches high, bulky, cylindrick; nearly of equal Thickneſs throughout; and at the Top flatted.

Its Colour, which was at the firſt Appearance an obſcure Green, becomes now paler and brighter, and toward the Ground is often ſtained with Purple.

The whole Surface is compoſed of oval Tubercles, which are ſmooth on the Surface, cluſtered at the Baſe, and arm'd at the Top with a radiated Crown of brown and gloſſy Thorns.

This is a common Appearance of the Plant; and in this State it is extremely pretty.

The Flowers add little to its Beauty; their Colour is white, they are very minute, and they are placed among the Tubercles. But what the Flowers want in Elegance, Nature has given to the Fruits.

Theſe grow gradually to a moderate Bigneſs after the Flowers have fallen, and when perfectly ripe, and of a fine Crimſon lightly tinged with Purple. The Form is oblong, and from the End, there hangs a complex Fibre of a faint red Colour.

The Juice of this Fruit is Purple, and not ill taſted, and the Seeds mixed among it are ſmall and black.

If the whole Plant be cut tranſverſely, it is found to be compoſed of a tender Subſtance, not unlike that of an unripe Cucumber, and of a greeniſh Colour. The Taſte is acrid, and there runs out a milky Juice from the exterior Part near the Baſes of the Tubercles, more ſharp in Taſte, than the Fleſh.

To know the Claſs of this ſingular Plant, the Student muſt carefully take off a Flower. Some Inſtrument beſide his Fingers will be needful for this Purpoſe, for it is well defended by the Thorns of the Tubercles.

To have it entire, there ſhould be cut out with it, the Top of the Rudiment of the ſucceeding Fruit to which it adheres.

There will be thus found a Cup tubular, and form'd of a ſingle Piece, but beſet with little imperfect ſcaly Leaves, arm'd with Prickles. In this is placed the Flower, compoſed of a great Number of narrow white Petals, which naturally converge at their Points; they are diſpoſed in ſeveral Series: thoſe of the inner Circle are always longeſt, and the ſeveral exterior gradually ſmaller.

In the Centre are placed a great Number of Filaments: they are inſerted into the Cup: within the tubular Part of this is placed the Baſe of the Style, from which it riſes ſingle among the Filaments.

From this Examination, the Claſs of the Plant in the LINNÆAN Syſtem will be at once determined, the Number of the Filaments refers it to the Icoſandrious Tribe, becauſe they adhere to the Cup, not the Receptacle; and the ſingle Style ſhews, that it is one of the firſt Section under that general Head the *Monogynia.*

The Filament that hangs from the Top of the Fruit, is the Remain of the Flower, and when tinged in any conſiderable Degree with red, 'tis owing to the Juice.

Culture of this CACTUS.

The Plant is a Native of the warmer Parts in *America*, where it covers the Surfaces of rocky Hills; the Seeds growing almoſt wherever they fall, and the Plants in undiſturbed Places thence crowding upon one another.

The proper Soil we ſhould give it here, is indicated by the looſe barren Earth, in which it grows naturally in thoſe Places, and the Climate directs the Degree of Heat.

It ripens Seeds freely with us under a proper Management; and may therefore be propagated by that Means.

But frequently without the Trouble of the Gardener, young Plants riſe about the Baſe of the old one, from theſe Seeds dropp'd naturally; and nothing ſucceeds better than the replanting theſe.

The Compoſt I have found beſt ſuit its Growth, is this; a Buſhel of dry Paſture Earth, half a Buſhel of Sand, and a Peck of Marle, or in its Place ſo much ſoft Chalk, well broken to Pieces.

In

Dec.

In this the Seeds are to be ſown in Pots, with the Advantage of a Bark-bed, to aſſiſt their Shooting.

The Method in which they ſucceed beſt, is this: fill a couple of Pots with the Compoſt, when it is dry and well mixed. Strew over the Surface, ſome of the Seeds, and ſift over them a quarter of an Inch of the ſame dry Mixture.

Set theſe Pots up to the Rim in a Bark-bed; and once in four Days ſprinkle the Surface with a very little Water from a fine nos'd Pot.

When the Plants appear, let them be thinn'd, ſo as to leave only three or four in a Pot; and allowing a few gentle Waterings, and by Degrees enharding them to the Air, they will be, in moderate Time, of a Size to remove into ſeparate Pots: this muſt be perform'd with great Care, and the Plants by no Means bury'd in their loweſt Part.

They muſt have a little Water; and by the Aſſiſtance of Shading in the Bark-Bed, they will root well; and toward Autumn they muſt be taken into the Stove.

Dec.

They muſt there have very little Water; and by this Means they will be brought to flower annually in great Perfection.

The common Cuſtom is, to plant them in the Rubbiſh of old Walls, with Sand: a ſtrange, ill-choſen, and unnatural Mixture! In this they grow but faintly, and are ſubject to rot in Winter; but in the Compoſt here directed, they will not only live, but thrive, as in their natural Country.

When young Plants appear in the Pots, about the Surface of the old ones, they always riſe from fallen Seeds: they may be planted into ſeparate Pots in the ſame Manner we have here directed for the Seedlings; and they will ſave the Gardener the Trouble of ſowing, and the Tediouſneſs of nurſing up the Individuals in that Manner.

6. SEA PANCRATIUM.

Plate XVII. Fig. 6.

The Botanical Writers became early acquainted with this elegant Plant; but we are not to expect that we ſhall find them early calling it by a proper Name. The Student knows already, that in the Bulbous Claſs, all was, to the Time of Linnæus, Confuſion.

C. Bauhine has deſcrib'd this Species under the Name *Narciſſus Maritimus*, Sea Daffodil.

Clusius entitled it *Hemerocallis Valentina*; a Name more honour'd by the Obſervance of After-Writers.

Morison has made it one of the *Lillio narciſſi*, and Linnæus, a *Pancratium*. That Author adds, as the Diſtinction of the Species, *ſpatha multiflora*, *petalis planis foliis lingulatis*.

The Root is an oblong Bulb, white within, covered with a blackiſh Skin, and full of a thick Juice.

The Leaves are numerous, of an oblong Figure, moderately broad, flat, and of a blueiſh or greyiſh green.

The Stalk is round, thick, naked, of a whitiſh green, and a Foot and half high.

The Top is at firſt terminated by an oblong Scabbard: and that burſting diſcloſes ſeveral Flowers, ſix or more, and thoſe diſtinguiſhed by their Size and Fragrance, tho' without the Advantage of a gaudy Colouring.

Each is ſupported on its ſeparate Footſtalk, all riſing from the ſame Place, at the Head of the main Stem, and they fall gracefully into a large Tuft. They have no Cup beſide the common Scabbard: this ſerves them all; and when it has burſt, to give them Way, ſoon withers.

Each Flower conſiſts of a wide expanded Nectarium, and ſix Petals. The Nectarium, reſembling what is call'd the Cup in Daffodils, is form'd of a ſingle Piece, hollow, narroweſt at the Bottom, broader to the Mouth, and at the Edge divided into twelve irregular Segments. The ſix Petals are inſerted into the Body of the Nectarium, near its Baſe, on the outer Part; and they are long, moderately broad, pointed, and flat.

The Seed-veſſel which follows the Flower, is roundiſh, but rais'd in three Ridges, and contains many roundiſh Seeds, in three diſtinct Cells.

The Filaments in the Flower are ſix; they are inſerted on the Edge of the Nectarium, and are crown'd with oblong Buttons. The Style riſes in the Midſt of the Flower, and is crown'd with an obtuſe Top.

The general Colour of the Flower is a Snow-white; but this is very beautifully variegated with green.

The Petals are more or leſs ting'd with a very pleaſing green, from the Point downwards; and the Tip of the Nectarium is often touch'd in the ſame Manner.

The Filaments are white as the Body of the Flower, but their Buttons are yellow; and this not a little adds to the Beauty of the Whole.

The Scent is of the moſt fragrant and delicate Kind: it is the Sweet of the Lilly, but without its Faintneſs.

The Claſs to which this Plant belongs in the Linnæan Syſtem, is read obviouſly in the Flower. The Sixth, entitled the *Hexandria*, comprehends thoſe whoſe Filaments are ſix; and the Style ſhews it to be one of the firſt Section under that Claſs the *Monogynia*; riſing ſingle, and little leſs conſpicuous than the Filaments.

Pl: 17.

1 Proliferous Mountain Crowfoot

2 Spiral Vallisneria

3 Pectinate leav'd Othonna

4 Scarlet Cynomorium

5 Mamillary Cactus

6 Sea Pancratium

Boyce sculp

Dec.

Dec.

Culture of this PANCRATIUM.

Leſs Care and Trouble are requir'd to raiſe this than moſt of the *Pancratiums* we have nam'd before: they were Natives of *Africa*; this is wild in *Spain*, and other of the warm Parts of *Europe*.

It grows naturally within the Influence of the Sea; and where there falls to its Share a mellow Bank, with ſome Sand among the richer Mould, it always ſucceeds beſt. This indicates its Culture; and the natural Climate ſhews what we owe to it in Point of Warmth.

The beſt and readieſt Way of propagating it, is by Roots; and theſe may be either obtain'd from its native Countries, or parted from larger here. The latter Method is the ſlower, but it is the moſt certain.

The Seaſon of taking up the Roots is in Summer, after the Leaves are decay'd. Theſe may be kept ſome Months out of the Ground; ſo that there is no Difficulty in receiving them good from Abroad: and whether they be procur'd this Way, or rais'd from Off-ſets, the Method is to be the ſame.

Mix a Barrow of rich Meadow-Earth, and a Buſhel of coarſe Sand; ſtrew over theſe a Peck of mellow Cow-dung, and two Ounces of common Salt: let this lie the Winter and ſucceeding Spring, and Part of Summer; and toward the Time of Planting, which ſhould be in *June*, fill as many Pots as you intend to raiſe Roots.

Plant one carefully in each, and ſet it in a ſhelter'd warm Place, but not under the Drip of Trees. Once in four Days give theſe a little Water; and when the Shoot appears for flowering, bring them into a warmer and more open Place.

At the Approach of Autumn remove them into the Green-houſe, and they will flower in all their Glory.

The later the Roots are planted, the later they will flower; and by this Method ſome may be kept back, for a Seaſon when the Scarcity of other Flowers gives them an additional Value.

* * *

CHAP. II.

The Management of the Flower-Garden, Greenhouſe, and Stove.

OUR Directions in the preceding Weeks have left little to add with Reſpect to the open Ground, for the preſent; but there remains ſomething for the Care of thoſe Plants which are ſhelter'd and preſerv'd by artificial Warmth.

All that need employ the Attention of the Gardener, in the open Ground, is the Care of his Flower-Beds; and what they require we have told him already, directing the covering them up, or giving them Air, as the Seaſon, changing from more to leſs ſevere, ſhews neceſſary.

Let him look with a careful Eye over his Greenhouſe and Stove-Plants. The Cloſeneſs of the Greenhouſe, eſpecially if he have been too free in Watering, will occaſion Mouldineſs on ſome of the more tender Plants. This will ſpread. It is a Growth of the Vegetable Kind, and none ſo quick in its Increaſe.

The Microſcope diſcovers that all this Cruſt is compos'd of minute Plants, whoſe Seeds were firſt brought by the Air; and are eaſily ſcattered through the whole Building in the ſame Manner.

Theſe are as quick in their Growth, as minute in their Proportions; and of the moſt common Kind in a Greenhouſe, which has a globular ragged Head upon a pellucid Stalk, I have ſeen Plants riſe to Maturity, and ſhed Seeds fit for Propagation, in the Compaſs of one Day, upon a Place before uninfected.

The Gardener thus underſtanding what Mouldineſs is, will know the Neceſſity of guarding againſt it; and the Manner.

Theſe Seeds of theſe minute Plants float every where in the Air; but they do not ſtrike, unleſs where there is Heat and Moiſture.

Therefore to prevent the quick Growth from accidental Seeds, let him take Care not to moiſten the cloſe Air, by too free a Watering of the Plants; and to deſtroy the Principle of Propagation in the particular Spot, let him carefully rub off the Mouldineſs wherever it appears. As it is apt to riſe again, in Places where it has been wip'd off, the moſt effectual Method I have found of preventing this, is, by wiping with a Flannel, wetted with a ſlight Brine. This done with Care, I have never once known to fail; nor ever ſaw any bad Conſequence from it to the Plant.

The next Care muſt be, that the ſame damp Air which gave Riſe to the Mouldineſs, have not in any Part infected the Plants.

If Leaves appear faded, let them be taken off, when it is ſeen they can't recover; and let them not be thrown about in the Greenhouſe, but taken away as ſoon as pick'd off, for they will elſe infect the Air in the ſame Manner.

Let this be the Practice alſo in the Stove; and let the careful Gardener, who ſees the Extent of the Miſchief, and knows its two Cauſes to be

Cloſeneſs of the Room, and too much watering the Plants, be continually guarding againſt both.

Let him never fail to open his Windows in the Middle of a mild Day; and let him err on the ſafe Side, by giving his Plants at ſuch Times leſs Water than he knows they would bear.

In the Stove let the Heat be carefully kept up to a due Height, without exceeding thoſe Bounds; and let the Plants be water'd in Proportion; the more for the encreas'd Heat, but always by a little at a Time.

Many require no Moiſture at this Seaſon, as we have obſerv'd; but for ſuch as we have directed to be water'd, let it be done moderately, tho' often.

* * *

SECT. II.

The Buſineſs of the SEMINARY, *for this Week.*

THE whole Management in this Part is confin'd at preſent to a ſmall Compaſs; but there will, in a few Weeks, be Hurry enough in it; therefore let whatever can be done now, be duly executed.

Let the Earth be turn'd which we have directed to be laid in Ridges; and a little Soot ſcattered over it with an even Hand. This I have found of great Service, and this is the beſt Time for doing it.

The Rains waſh it in, and blend it well with the Mould before the Time of Planting; and it is by that Seaſon in full Effect.

It warms, looſens, and invigorates the Soil, giving Force to the firſt ſhooting of the Roots when new planted; and its Effect is, in a few Weeks more, exhauſted and loſt; ſo that it aſſiſts the Growth when moſt wanted, without permanently enriching the Ground, which is a Thing to be guarded againſt, with Care, in a Nurſery: for the Plants ſhould always find the Soil, to which they are remov'd, better than that whence they were taken.

After this is done, let him look to his Seed-Beds of thoſe Kinds moſt in Danger from Vermin; and bait his Traps with the more Care, when he ſees any Hazard.

Let him draw up the Earth, in mild Days, about his new-planted Shrubs; and ſee the Stakes of the reſt keep ſecure, that the Winds cannot rock them.

* * *

SECT. III.

POMONA, *or the* FRUIT-GARDEN.

THE general Care of new-planted Trees is to be continued in this Part of the Ground: it conſiſts of only two Articles; and, as we have directed it at large before, needs but to be nam'd again here.

They muſt be defended from the ſevere Froſts, by keeping the Ground about their Stems well cover'd; and from the Winds, by ſeeing that their Supports are ſecure.

What requires at this Time the Gardener's moſt particular Attention, is, the Care of his Fig-Trees.

We directed him, in the Autumn, to take off all the Fruit from the young Branches, which would otherwiſe have rotted upon them, and deſtroy'd them: and we adviſ'd him in the Severity of Winter, to defend the Trees, by hanging before them ſome Mats, or other Covering, from the Froſts and cutting Winds.

'Tis now he will find the Neceſſity of this Practice; and we are to caution him that he do not kill that with over Care, which would have had ſome Chance to eſcape, if left expos'd.

The Principles of Gardening are the ſame in whatever Part of the Ground they are to be employ'd; and what we have explain'd ſo largely, reſpecting the Management of the Greenhouſe Plants, holds in all the Articles, of the Fig-Tree and its Shelter.

The tender Branches would be deſtroy'd by the Froſt; but they may alſo be choak'd up by too conſtant Covering. The Buſineſs of the Gardener is, in this Caſe, as the other, to admit the

Air at Times, when it can do leaſt harm; and to keep off that Severity which would be deſtructive.

This is not the common Practice of Gardeners, for they cover them all the Depth of Winter, and open them in Spring; but the Trees often ſuffer great Damage by that Method, loſing the very Branches, which ſo much Care was taken to defend; the firſt cold Night after the Covering is taken away, deſtroying them; its Effect being the greater, by the too ſtrict Defence before.

The Practice I have uſed, is this.

Where I have thought a Wall Fig-Tree in Danger, I have fixed a Piece of Matting to the Top, broad enough to reach to the Ground; and plac'd a Row of forked Sticks along the Bottom in the Ground.

The Mat has thus been raiſed, more or leſs, as the Severity of the Seaſon required. Let the Gardener manage thus. Let him provide a Piece of Mat that will cover the Tree, and reach from the Top of the Wall to the Ground, and hang about eight Inches upon it.

Then let him ſet up the Row of forked Sticks, juſt where it touches; and at each End of the Mat, drive a firm Stick into the Wall, of two Feet long, and another of one Foot near it.

This will be a Preparation, by which the Tree may be ſufficiently ſheltered, and yet by Degrees opened to the neceſſary Air, as the Seaſon will permit.

In the ſevereſt Weather, let the Mat fall over the whole Tree, and lay ſome Bricks upon the Edge of it, which lies upon the Ground ſo that no Wind can raiſe it: then ſee that it falls cloſe at the Sides.

This will be a Defence againſt the very worſt Weather; and it muſt only be uſed in ſuch: at other Times, according as the Seaſon grows more mild, the Sides may be left to play looſe; the Bottom may alſo be at Liberty to admit the Air, by taking away the Bricks; and there will thus be enough let in to prevent ſtifling.

When the Weather is milder, the Bottom of the Mat is to be raiſed on the forked Sticks; and when it is ſtill more favourable, the Sides may be raiſed alſo on the ſhorter or longer Sticks, placed in the Wall for that Purpoſe.

Theſe are the ſeveral Degrees; and in the better Days that came toward the Approach of Spring, the whole Mat may be turned up to the Top of the Wall during the three Hours about Noon.

Thus the Tree will be preſerved through the Winter, without being choaked up; and the Admiſſion of Air in this regulated Manner, will keep up the Principle of Vegetation, and the Juices will have their free Courſe, when Spring ſends them up in the more large Manner.

The Tree will be preſerved through the worſt Weather, and will be in no Danger from the freſh Expoſure of the Air in Spring, becauſe it has been habituated to feel it by Degrees.

The particular Manner in which we have deſcribed this Method, is not to make any ſuppoſe it is attended with great Trouble.

In every good Garden, there are many Things which require to be occaſionally ſheltered from the Froſts, and expoſed to the Air; and the Gardener is expected to go his daily Rounds for that Purpoſe.

This is one of them; and it will only ſhare a common Care with the reſt.

The Trouble will be little; and the Advantage greater than many are aware.

The early Appearance of the Fruit on this Tree is a great Article, and they will thus be forwarded vaſtly: the Quantity of them is the next Conſideration; and this will be encreaſed in the ſame Proportion: for the Protection the Tree has received during the Winter, gives Nature her full Power of producing them.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

WE have directed the Management of Artichoke Beds in a preceding Week, but the careful Gardener muſt from Time to Time look over the Buſineſs he has done, to ſee what Condition the ſeveral Parts preſerve.

It is not enough Things are put into a good Way, they muſt be kept in it; and theſe are Seaſons when a little Neglect may do a great deal of Miſchief.

Let him ſee that the Plants keep well earth'd up, for on that will depend their Preſervation, and certainly their Forwardneſs in Spring.

Let him repeat all that Attention and Care we have directed for the Cauliflower Plants, which are under Glaſſes, giving them Air in the moſt favourable Hours to prevent their Decay; and co-

covering them perfectly in the worſt of Days, and always at Night, from the Injuries of the Froſt.

Let him take Care in the ſame Manner to give Air to his young ſalleting; for it will no more thrive on a Hot-bed kept cloſe, than it will ſhoot in the expoſed Ground.

I have found that the ſowing it on a Hot-bed, arched over with Hoops, and covered with Matting, anſwers much better than under the too cloſe Shelter of the common Frame.

This Week, if the Weather be tolerably mild, it will be proper to plant the ſeveral Cabbage Kinds for Seed; and there is no Plant that requires more Skill or Care in the Management, among all the Kitchen Products.

A great deal of Direction has been given about it, by thoſe who treated theſe Subjects both in *France* and here; but to the *French* we are to allow great Preference, not only as they direct the ſeveral Parts of the Operation, in a more regular and diſtinct Manner; but as they pay a Regard to the fit Soil for the Purpoſe, which is a firſt Point, and is omitted by moſt of our own Writers, and ill directed by the reſt.

The Plants intended for this Uſe, are now growing in their common Beds, and the firſt Care muſt be, to ſelect the beſt of them. Theſe are ſuch as have the firmeſt and ſhorteſt Stems, and are moſt full of Vigour.

Let the Gardener mark as many of theſe as he intends to uſe, by ſmall Sticks placed near them; and then taking the Advantage of a mild dry Day, let him take them up, and ſhake the Earth from their Roots.

Let him draw two or three Cords acroſs ſome Room where there is no Damp, and which is not near any Fire; and winding a Piece of Baſs round the Top of each Plant, let him tye them up to theſe Lines, at a good Diſtance from one another.

While they are hanging here, let him chuſe a dry warm Part of the Kitchen Garden, and ſtrew over the Ground a good Quantity of coarſe Sand, and ſome Coal Aſhes.

Let theſe be well dug in, and the Mould broke ſo as to mix thoroughly with them.

Let this be got ready four Days after the Plants were hung up, and on the Evening of the next let them be planted.

They ſhould ſtand at a Yard Diſtance from one another, and a deep Hole being opened for each, the Plant is to be ſet in it, ſo that not above five Inches be above the Level of the Ground.

When the Root is carefully covered, the Earth is to be drawn up about the Top in a large Hill, and the whole covered, except the Head, from whence the flowering Stalk is to riſe.

A great deal of Care muſt be taken of theſe: there muſt be a good Thickneſs of Earth about them in the rais'd Part; and they muſt not be watered: the Dampneſs naturally in the Ground is to the full as much as they will require. From this Time to the perfecting of the Seeds, nothing is more injurious than too much Water; if it be given when the Plants are firſt ſet, they will decay; and if afterwards, the Seeds will be leſs valuable.

Their future Management muſt be this. After ſix Weeks, the Ground muſt be well dug between them: this will at the ſame Time give them Nouriſhment, and deſtroy Weeds.

Till they begin to ſhoot in the Flower-Stem, they muſt have no Water: and after that Time, they muſt have it, unleſs the Seaſon ſave the Labour, every third Evening.

The Water muſt be allowed but in a moderate Proportion; and the Ground between muſt have it all; for it ſhould always be a Rule, to ſpare the Hills raiſed up about the Head of the Plant.

EDEN:

A
COMPLEAT BODY of GARDENING.

NUMBER XVIII.
For the firſt Week in *JANUARY*.

SECTION I.
FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.
Flowers and Curious Plants now in their Perfection.

1. The SNOW-DROP.

Jan.

Plate XVIII. Fig. 1.

WE treat here of one of the moſt familiarly and vulgarly known Flowers of the Garden: but as it is familiar 'tis alſo univerſal; and we propoſe to leave no Article untouch'd, that can be uſeful to any concern'd with our Subject.

The Hardineſs with which this Flower rears its Head among the Snow at the dead Time of Winter, if planted properly, and long before the earlieſt of Spring, however manag'd, give it a Claim to Attention; nor does it want Elegance to recommend it in the ſingle State, much leſs in the double.

The Writers on Botany have all mention'd it, but under various Names; the proper Generical Diſtinctions in the bulbous Plants, having never been eſtabliſh'd till LINNÆUS.

The older Writers call it *Leucoium bulboſum*; the later, *Narciſſo-Leucoium*; and both join it with a very different Set of Plants, the proper *Leucoia*, which have a Flower of ſix Petals without a Nectarium; this having only three, with a conſpicuous and elegant one.

On this Diſtinction in Nature LINNÆUS has founded a new Genus; ſeparating it from the proper *Leucoium*, under the Title of GALANTHUS. To this he adds no diſtinctive Character; for of the Plant thus rightly underſtood, there is but one known Species; the double Flower it ſometimes ſhews being only the Luxuriance of Nature from good Culture, as we have ſhewn on other Occaſions.

Jan.

The Root is a ſmall Bulb, compos'd of many Coats or Skins, of which the outer one is blackiſh, the others white; and the Whole is full of a tough Juice. From the Baſe run many long white Fibres.

The Leaves and Stalks riſe together, ſurrounded half their Length by a white filmy Scabbard: this is their Defence from Nature againſt the extreme Rigour of the Seaſon wherein they appear.

The Leaves are long, narrow, and thick; and their Colour is a deep green, with a blueiſh Tinge. Two of theſe naturally riſe more upright than the reſt, to defend and ſhield the lower Part of the Stalk: the others ſpread farther and droop.

The Stalk is angulated, of a paler green, naked, and four or five Inches in Height. Its Top droops with the Weight of a ſingle Flower, which burſts from an oblong flatted Scabbard, and appears too large for its tender Support.

This is compos'd of three Petals, and a Nectarium, conſiſting of three Parts, reſembling ſo many more. Let the Student perfectly underſtand its Structure, that he may avoid the antient Error of confounding it as a Species of the ſame Genus with what is call'd the greater Snow-drop, properly a *Leucoium.*

The Flower of this Plant is compos'd, diſtinctly, of only three Petals: theſe are oblong, hollow'd, obtuſe, and regular in Form and Diſpoſition. The Nectarium, that ſtands within, is of a tubular Form, cylindric, and compos'd of three Parts: theſe are half as long as the Petals, and are obtuſe and nick'd at the End.

The three Petals, compoſing the outer Part of the Flower, are of a pure Snow-white. The three Parts of the Nectarium, which are plac'd alternately with the Petals, are alſo white toward the Top; but they are ting'd near the Bottom with a yellowiſh green, in Form of a Heart; and on their inner Surface run many conſpicuous and elegant green Fibres.

The Nectarium is of a firmer Subſtance than the Petals.

To know the Claſs, let the Student obſerve the Filaments: theſe are ſix; but they are ſo very ſhort, that their Antheræ are the firſt Object which ſtrikes the Sight. They are oblong, convergent, and terminated each by a kind of Briſtle. Theſe are of a fine yellow, and they add not a little to the Variety and Beauty of the Flower. In their Centre riſes a pure white Style: and the Seed-veſſel which follows, is roundiſh, and mark'd with three Ridges.

The ſix Filaments ſhew the Plant to be one of the *Hexandria* of LINNÆUS, a Claſs which comprehends moſt of the bulbous Plants; and the ſingle Style ſhews it to be one of the *Monogynia.*

Culture of the GALANTHUS.

It is a Native of the *Alps*, and flowers there at the End of *January*, opening with the Sun-riſe, and cloſing as he ſets. Our common Culture brings it a Month ſooner than in its natural Climate; and it may be thrown up earlier yet; even to flower in all its Glory at this Period, by due Care.

No Greenhouſe or Stove, Bark-Bed, or Dung, are needed to this Purpoſe. A Plant that Nature raiſes on the *Alps*, may very well bear our natural Seaſons.

The Roots are now ſo abundant, and are propagated ſo eaſily and readily by Off-ſets, that it were idle to propoſe any other Method. The only needful Care is a proper Mould, and Situation of the Border.

For thoſe intended to flower earlieſt, let a warm ſhelter'd Place be choſen, and let the Bed be made up with this Compoſt:

A Load of Meadow-Earth, half a Load of Pond-Mud, and a Quarter of a Load of coarſe Sand, with the ſame Quantity of rotted Cow-dung.

Let theſe be well mix'd, and the Border be made up in the Middle of *Auguſt.*

Toward the End of the preceding *May*, let the Roots be taken up; and when this Border is well wrought, let them be planted at eight Inches Diſtance, and bury'd two Inches and a half with Mould. Let the Surface be rak'd over them; and thus let them remain till the End of *October.* Then ſcatter over the Bed a little Marle and Pigeons Dung mix'd together.

The Rains that follow will waſh this in, and it will invigorate the Roots juſt when they are requir'd to ſhoot for flowering.

The Produce of Off-ſets will be very great from theſe, and alſo from ſuch as are planted in the common Way in Gardens; but as a Cluſter of the Flowers is agreeable to the Eye, they ſhould not be parted oftener than once in four Years.

The double Sort requires no other Culture, but ſhould have the Roots parted every third Seaſon.

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2. JACOBÆAN AMARYLLIS.

Plate XVIII. Fig. 2.

From a common little Plant moſt valu'd for its Time of flowering in the open Air, we advance to one which demands the Attention of the Curious, as a ſingular, and equally beautiful Kind: few exceed it in either Reſpect.

The Botanical Writers in general have nam'd it; for its conſpicuous Elegance brought it early into the *European* Gardens; and none could paſs it over unnotic'd.

Like the reſt of the bulbous Claſs it has been call'd by different Names; but, till the great Reformer of the Science, ſo often mention'd here, and often celebrated, it was never properly referr'd to its Genus.

The earlieſt among thoſe who have nam'd it, call it a *Narciſſus*; adding *Indicus*, *Indicus ruber*, and *Jacobæus.*

DILLENIUS, and moſt of the later Authors, call it a *Lillio narciſſus.*

Old PARKINSON thought, from the red Colour of its Flower, it ought not to be plac'd among the Daffodils; tho' in Obſervance of eſtabliſh'd Cuſtom, he rang'd it as one of them; and our Gardeners are not leſs remote from Truth than the moſt diſtant of theſe, in making it a Lilly.

With them its common Name is the *Jacobæa Lilly.*

Its proper Genus is the *Amaryllis*, whoſe Characters we have had more than one Occaſion to explain before. Hither LINNÆUS refers it; and, for Diſtinction of the Species, adds, *ſpatha uniflora, corolla inæquali, genitalibus declinatis:* Single irregular flower'd *Amaryllis*, with the Filaments and Style declinated. To diſtinguiſh it by a ſingle

Word, he adds *formoſiſſima*, moſt handſome.

The Root is a large round Bulb. Its outer Coat is black.

The Leaves are long, broad, of a firm Subſtance, and of a deep green.

The Stalk, which riſes on one Side of theſe, is round, but a little flatted, of a delicate pale red, and naked. On its Top appears an oblong filmy Scabbard, pointed at the Top, and of a ſomewhat deeper red than the Stalk.

When the Stem has reach'd a Foot in Height, this Scabbard burſts ſideways, and diſcloſes the wonderful Flower, whoſe Petals ſpread in their own Way, three drooping, two above them horizontal, and one erect.

Their Colour is the moſt perfect Scarlet; and in Form they reſemble the broad Swords our Heralds draw in Armour.

Within this Flower, defended by the three lower Petals, appear ſix Filaments and a ſingle Style.

The Filaments are Crimſon, and have yellow Buttons.

The Style is of a paler Colour, fleſhy, and ſplit into three Parts at the Top.

The Middle one of the three lower Petals ſurrounds them half their Length; and this Petal is in the ſame Manner ſurrounded by the two which are next it, for more than a third of its Length; and as theſe turn downward, the Filaments bend upward.

The Seed-veſſel which follows is of an oval Form, and in three Cells contains numerous Seeds.

The Claſs of the Plant is very conſpicuous in this Structure of the internal Part of the Flower. The ſix Filaments refer it plainly to the *Hexandria*; and the ſingle Style to the firſt Section under that Head, the *Monogynia.*

Culture of the JACOBÆAN AMARYLLIS.

The Plant is a Native of *South America*, whence we receiv'd the firſt Account of it from SIMON DE TOVAR; who, from the Reſemblance of the Petals to the pictur'd Swords on Habits of the *Jacobæan* Knights, gave it this Name the *Jacobæan Lilly.*

In its native Climate the Plant thrives beſt and flowers moſt boldly where there is a rich Earth with ſome Moiſture, and with enough Sand to make it always free and looſe. This muſt be our Guide for a proper Compoſt; and the reſt will depend entirely upon the ſuiting our Warmth to its Climate.

Let a Compoſt be prepar'd thus:

Mix equal Parts of Pond-Mud, Wood-Pile Earth, and Mould, from under the Turf in a rich Meadow. To three Barrows of this Mixture, add two Buſhels of coarſe Sand, and one of rotted Cow-dung. This, after repeated Tryals, I have found raiſe the Plant preferably to any other natural Soil or Mixture.

The Method of propagating it, is by Roots obtain'd from *America*, or by Off ſets from thoſe in our own Gardens; but of theſe, when it can be done, the former is vaſtly preferable. A Flower rais'd from an *American* Root, in the Compoſt here directed, exceeds the common Kind, beyond all that an unexperienc'd Imagination cou'd conceive.

We have ſaid that the Heat we allow the Plant muſt be proportion'd to that of its natural Climate. Thouſands of theſe Roots have been preſerv'd when there were no Stoves; but they flower weakly. The regulated Heat of a Stove alone comes near that of the common Air in *South America*; and the Plant will never riſe to its Perfection otherwiſe.

The very Period of flowering may be alter'd by this Management; and to this alone we can owe ſo glorious a Flower at ſo dead a Seaſon. In Nature it throws up the Flower-ſtalk very irregularly; and this Way we take the full Advantage of her Wildneſſes.

The Seaſon for planting Off-ſets is in the End of *July.*

As many Pots muſt be fill'd with the Compoſt as there are Roots; and they muſt be plac'd in theſe with Care, and cover'd an Inch and half above the Top. Theſe Pots ſhould be plac'd in a warm ſhelter'd Part of the Garden, and once in four Days gently water'd.

When the Shoot appears, they ſhould be ſet among the Greenhouſe Plants, then in the open Air, and water'd every other Evening. After this they muſt be remov'd early into the Greenhouſe; and thence, at the Approach of Winter, into the Stove.

This is the Management of the full-grown Roots brought from *America*, as well as of the Off-ſets rais'd here; and thus after having ſent up a Flower-ſtalk on one Side of the Root, in *September*, they will ſhoot out another, at the End of *November*, from the other Side, and flower in the dead of Winter in full Glory.

3. WINTER WOLFSBANE.

Plate XVIII. Fig. 3. Speaking of a Plant very familiarly known, we here, as on preceding Occaſions, uſe its vulgar *Engliſh* Name; but we ſhall tell the Student at once how improper this is; and by what it ought to be call'd.

All the old Writers were acquainted with it; but determining the Genera of Plants more by their Aſpect than proper Characters, they have call'd it by various ill-judg'd Names. Hence we read of it under the Title of a *Crowfoot* and a *Wolfſbane*.

The Name our Gardeners have for it, is the *Engliſh* of *Aconitum Hyemale*, by which the common Writers expreſs it.

Others have call'd it *Aconitum unifolium flore folio inſidente*; and *Ranunculus flore in medio folii*; Names expreſſing the particular Situation of the Flower upon the Leaf.

'Tis properly a kind of Hellebore. This MORISON ſaw, and nam'd it *Helleborus Ranunculaides præcox:* LINNÆUS and VAN ROYEN confirm this Determination; and add the peculiar Character riſing from the Place of the Flower, as its Diſtinction from the other Species, *Helleborus flore folio inſidente: Hellebore*, with the Flower fix'd upon the Leaf.

Thoſe who call it *Aconite* were led to that Name, by an Imagination that the Plant was poiſonous: but CAMERARIUS ſays, the Root in a ſmall Doſe is purgative; tho' in an Over-quantity it may do Miſchief. This refers it to the Hellebores, even in Quality.

The Root is tuberous and irregular in Form; blackiſh on the Outſide, fleſhy, and of an acrid Taſte.

The whole Plant above the Ground conſiſts of a Leaf rais'd on a Foot-ſtalk, and crown'd in the Centre by a Flower. Many of theſe Stalks uſually riſe from the ſame Root; but all of like Kind and Compoſition, each being a ſeparate and perfect Plant.

The Stalk is round, hollow, ſmooth, naked, whitiſh at the Bottom, and all the Way up greener.

On the Summit of this is plac'd a ſingle Leaf. This is not join'd to the Stalk at its Edge, but fix'd upon it by the Middle, and is of a handſome Shape. The general Form is roundiſh; but it is very deeply divided into an irregular Number of long and narrow Segments, and theſe often ſplit again at the Ends. The Colour is a freſh and lively green, but with ſome light Tinge of yellowiſh.

In the Centre of this Leaf is plac'd a ſingle Flower. This has no Footſtalk; it is large; and of a beautiful yellow, ting'd toward the Bottom often with a Caſt of green.

The Flower is compos'd of ſix Petals, broad, oblong, obtuſe, and naturally a little bending inwards.

This is its general Form and Figure; but there is that within which deſerves particular Attention. There are in the Hollow of it, ſix Nectaria, ſingular and elegant in their Structure. Each is form'd of a ſingle Leaf, tubular, ſhort, narrow at the Bottom, and widening to the Top, where it opens inward with a gaping Mouth: and the whole ſix are plac'd in a circular Direction.

The Filaments which decorate the Centre are very numerous, ſlender at the Top, and crown'd with Buttons of a particular Form. They ſtand erect, not croſs-wiſe, as in the laſt mention'd Flower; and they are oblong, compreſs'd, and broader toward the Top than at the Bottom. In the Centre of theſe riſe ſeveral Styles, of a horned Figure, and terminated by thick Tops.

The Number of Styles ſhews, that to whatever Claſs the Plant belongs, it is one of the *Polyandria*. To determine of the more eſſential Article of the Claſs, the Inſertions of the Filaments muſt be examined; for that is the Diſtinction between the *icoſandrous* and *polyandrous* Plants; in each of which there are a Number of Filaments. They riſe here from the Receptacle, and therefore ſhew the Claſs to be that of the *Polyandria*.

In the *Icoſandrous* Tribe theſe Filaments grow to the Cup; but ſuch an Inſertion here would be impoſſible, for the Flower has none. It riſes naked from the Leaf, or from the Summit of the Stalk, which ſerves at once as a Foot-ſtalk for the Leaf, and Pedicle to the Flower.

Culture of the WINTER ACONITE.

The Plant is a Native of the *Alps*, where, as in our Gardens, it accompanies the *Snow-Drop*; painting the Face of Winter, and foretelling the Approach of Spring.

From this we know, any Heat more than natural, in our Climate, would be of Diſadvantage to it; and all that can be done to aſſiſt the flowering, is to adapt a proper Soil. This, with a favourable Situation, will, as in the Caſe of the *Snow-Drop*, forward its flowering, and give it more Luſtre.

The common Garden-Mould, in which Cuſtom now plants it, is too rich; and in moſt Places where it is more regarded, the Fault is extended, by the adding more Dung, by way of enriching that which was too rich before.

To bring it to the utmoſt Perfection, and make it flower early, let a Border be dug out, and fill'd with this artificial Soil:

Earth from a dry Paſture one Load, Marle two Barrows, Lime one Buſhel, Sand three Buſhels. Mix theſe well, and throw them up in a Ridge in the Border at Autumn. Thus let them lie all Winter and Spring.

In the Beginning of *May* ſpread the Soil, and lay aſide as much as will cover the Roots two Inches, when plac'd in the Border.

The Roots are to be taken up in the ſecond Week in *June*, and parted in the uſual Manner. Then draw Lines lengthway and a-croſs of the new Border, each at ten Inches Diſtance; and in the Centre of every Square, place regularly one large Root, or three of the ſmaller Pieces. Cover theſe with the Soil reſerv'd for this Purpoſe, and give them a very gentle Watering. After this they may be left to Nature; for they are hardy and full of Life.

Thoſe in the moſt favourable Situation will flower earlieſt, and thoſe in the other Parts of the Ground will come in afterwards as a Succeſſion.

The Plant may be rais'd from the Seeds, which ripen very well with us; but it is not worth while to be at that Trouble; for the Roots encreaſe greatly, and grow freely.

4. DOUBLE COLCHICUM.

Plate XVIII. Fig. 4.

Few Flowers are more conſpicuous than that of which we treat in this Place; and few more beautiful.

The *Colchicum*, in its ſingle State, has a great deal of Elegance. It has here all the Benefit of luxuriant Culture.

Moſt of the Botanical Writers have nam'd it; and whether in the ſingle or double State, under its proper Title, *Colchicum commune*, and *Colchicum flore pleno.*

Linnæus retains the Generical Name, and adds, as a Diſtinction for the Species, *foliis planis lanceolatis erectis*: *Colchicum*, with upright, flat, ſpear-pointed Leaves.

It is one of thoſe Plants whoſe Flowers and Leaves appear at different Seaſons.

The Root is of a Figure approaching to round, but ſomewhat oblong and compreſs'd: it is ſmall at the Top, and at the Bottom edg'd, and furniſh'd with many white Fibres. The outer Coats are of a duſky reddiſh brown, but within, the Subſtance of the Root is white, fleſhy, and full of a milky Juice.

From this, at the End of Autumn, riſes the Flower, ſupported on no Stalk, but iſſuing immediately from the Subſtance of the Root, by its tubular Part, which riſes to four or five Inches above the Surface before it begins to enlarge, and thence dilates into a vaſt and ſpecious Flower.

The tubular Part is of a pale red, angulated, tender, and perfectly ſmooth. Authors who mention a Stalk to the Flowers of *Colchicum*, are to be underſtood of this Part of the Flower. Cordus led the Way; and thoſe have follow'd him, who had not the Attention to examine that Part with Strictneſs.

This ſlender and angulated Tube of the Flower, is defended under the Earth, and to its Surface, by a few filmy Subſtances, which keep off the Inſect Devourers, whom its Juice wou'd otherwiſe draw to it; and preſerve it from being rotted by the Damp.

At the Top it divides into ſix large and beautiful Segments: theſe are pointed, fleſhy, hollow; and, where the Flower is ſingle, they naturally ſtand erect; but when luxuriant Culture makes it double, the accumulated Segments in the Middle, bear down theſe outer ones, and only a few of them maintain themſelves in the natural erect Poſture. In this State the whole Flower is thrown beautifully open; and in Size, Colour, Proportion, and Diſpoſition of the Parts, exceeds moſt of the Beauties of the Garden.

The Colour is the moſt delicate red that can be conceiv'd; it is a mixt Tinct of Crimſon and Fleſh-colour: uſually very pale; but even in that State full of Luſtre; ſometimes glowing with a deeper and much richer Dye.

In the double Flower the Colour is naturally ſtrongeſt on the Inſide, paler without, and from the broad Part it grows gradually fainter all the Way down the Tube, till at the Bottom it is whitiſh.

The ſame Luxuriance of Nature, which in this Plant fills the Flower with Petals, uſually ſends up two or three from the ſame Root; whereas, in the ſingle Kind, there commonly is but one Flower from each. This alſo is a great Recommendation; they form the fuller Beauty, and they laſt the longer.

There follows a three-parted Seed-veſſel, with numerous rounded Seeds.

To know the Claſs, the Student muſt examine a ſingle, not a double Flower: the additional Segments in theſe take the Place of the Organs of Fructification, or, at the leaſt, confuſe the Account. In the ſingle Flower they are extremely conſpicuous; and we have already told the young Botaniſt, the ſingle and double differ only as Varieties from Accident, the Species being the ſame.

In this Flower he will perceive there are ſix Filaments: theſe are ſhorter than the Segments, and grow ſlender upwards. Their Colour is a delicate pale red; and on the Top of each is plac'd an oblong Button. Among theſe riſe three Styles. They have their Origin from the Rudiment of the Seed-veſſel, which is at that Time bury'd in the very Subſtance of the Root.

The Plant therefore is of the *Hexandrous* or ſixth Claſs in the Linnæan Syſtem, and one of the *Trigynia.*

Culture of the Double Colchicum.

It is a Native of our Meadows, ſingle, but not common. The Soil in which it thrives beſt, is a rich black Mould moderately damp; and there, in the Courſe of Nature, after the Flowers are faded, the Seed-veſſel ſlowly ripens, and raiſes itſelf toward the Surface.

Early in Spring appear the Leaves; and they are broad, ſomewhat like thoſe of the Lilly, and of a deep green. They unite at their Baſes and riſe white to the Surface; and in the Centre of this Cluſter appears the Seed-veſſel, which does not acquire its full Maturity till after the Middle of Summer.

There can require no great Art or Induſtry to raiſe in Gardens the ſingle *Colchicum*, which is a wild Plant in our Fields; but the double Kind demands and deſerves ſome farther Attention.

The Seeds of the double Flowers do not always come to Perfection; for which Reaſon it is beſt to propagate the Plant by the Off-ſets from the old Roots. Theſe it produces in great Number, and they are eaſily manag'd. They require no Stove or Green-houſe for their Protection, in the common Method of Management; but it will be proper to pot a few of them, planting them later than the reſt, for flowering at this dead Seaſon.

The Warmth there is in a good Greenhouſe, will ſupply all they require for their ſhooting; and they may thus be brought to their Perfection, when the Dearth of other Flowers will give them an additional Value.

The great Care in raiſing them, whether in the open Ground or Pots, is to give them a proper Soil. The common Mould of a Garden is too much enrich'd by Dung.

The Compoſt I have of late Years us'd, and found very ſucceſsful, is ſo cheap and eaſily obtain'd, none ſhould deny it to them.

Mix a Load of black Mould from a rich Meadow, two Buſhels of rotted Cow-dung, and one Buſhel of Pigeons Dung: let theſe lie all the Winter, and be often turn'd: in Spring throw over them half a Load of Pond-Mud; and mixing them well afterwards, in the Beginning of *Auguſt* make up a Border in ſome cool and moiſt Part of the Garden.

Draw Lines lengthway and a-croſs, at the Diſtance of eight Inches; and in the Centre of each Square place one good Root.

Theſe Roots ſhould be taken up in the Beginning of *June*, and parted: after this they are to be kept out of the Ground till the Time juſt mention'd; and being then carefully planted, and cover'd two Inches with the ſame Compoſt, they will flower in all their Beauty.

Thoſe intended for Potting are to be taken up at the ſame Time, and planted a Fortnight or three Weeks after, in the ſame Manner. They muſt be ſet in a ſhady cool Part of the Garden till the Beginning of *October*, and then brought into the Greenhouſe; where, as the Flower riſes, they muſt be gently water'd; and they will here hold in Beauty longer than in the open Air.

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5. VARIEGATED COLCHICUM.

Plate XVIII. Fig. 5.

The Student, whom we have taught to conſider a Difference in Colour of Flowers of the ſame Name, as a Mark of accidental Variety, not a Diſtinction of Species, will ſtand ſurpriz'd to ſee us introduce a *Colchicum*, under the Name of Variegated, to his Notice, as a diſtinct Species. We are to tell him, that altho' the Variegation of the Flower, which is permanent and certain, be the moſt obvious Mark of Diſtinction in this Plant, the Leaves alſo have their peculiar Form and Appearance; that it is an abſolutely diſtinct Species; native of another Part of the World, and will require a different Care and Culture.

Tho' a Native of the *Eaſt*, it came early into the *European* Gardens; and it is too conſpicuous and elegant to have been overlook'd by any who wrote upon theſe Subjects: all ſince that Time have nam'd it; and under the ſame general and proper Title. CORNUTUS calls it *Colchicum variegatum*, a Name tranſlated for the common Gardener. Others have call'd it *Colchicum Fritillaricum*; the Variegation of the Flowers reſembling that of the *Fritillary:* and others, from its Country, *Colchicum Chionenſe*.

LINNÆUS, forming his ſpecific Name upon that real Diſtinction in the Leaves, which determines it a ſeparate Species, calls it *Colchicum foliis undulatis patentibus: Colchicum*, with undulated ſpreading Leaves.

The Root is oblong and a little flatted.

The Leaves are broad, ſhort, undulated, and of a deep green, perfectly diſtinct from thoſe of our *Colchicum:* but the great Singularity is in the Flower. This riſes naked, as in the other Inſtances, long before they appear; and in Form it reſembles that of the other Kind. Its tubular Part is long, and angulated; white at the Surface of the Earth, and thence upward clouded with a little red.

At the Top ſtands the Body of the Flower, form'd of ſix long and very beautiful Segments, colour'd in ſo ſingular and elegant a Manner, that no Eye ever paſs'd it unobſerv'd.

The Ground-Colour, or that diffus'd over the Body of the Flower, is a pale fleſhy Crimſon. Upon this are plac'd innumerable ſmall ſquare Spots of the moſt lively yet deep Blood-red; and along the Centre of each Leaf runs a Rib of white.

The Spots are diſpos'd with great Regularity in ſome Flowers, ſo as to mark a kind of Lattice Work; but in theſe they are uſually blackiſh.

The moſt perfect State of the Flower is what we have repreſented in the Figure; in which the middle Vein is very conſpicuous, and the Spots are innumerable, but diſpos'd with leſs Regularity.

In the Centre of this Flower ſtand ſix Filaments, as in the other; and there are, in the ſame Manner, three Styles. Theſe Parts refer it to the ſame Claſs with the former, as all Species of the ſame Genus muſt be: but in the Culture there is an eſſential Difference. That is not to be ſuited to the Claſs of the Plant, but to its natural Clime and Soil.

Culture of this COLCHICUM.

The natural Place of Growth of this Plant, is the *Levant*: and in the ſeveral Iſlands there; it is moſt frequently found in a cloſe, but rich Soil.

Marle is common among the upper Strata of the Earth in thoſe Iſlands, and 'tis where that is abundant, this elegant Flower riſes in all its Beauty.

Therefore let a proper Compoſt be made for it here, by mixing equal Parts of Meadow Earth with Pond-Mud, with about one fourth Sand, and as much, or a little more Marle.

Let this be thrown together in Winter, and after repeated Turnings during that Seaſon and the ſucceeding Spring, it will be fit for Uſe.

This is the Soil: and with Reſpect to the Propagation, it may be either from Off-ſets, or from Seed. The beſt Method is by Seed, but the greateſt Care muſt be taken to have it good.

With Reſpect to the Propagation by Roots, it is to be the ſame as in the preceding Inſtance; but in this, the Gardener has his Choice for various Degrees of Warmth: the Roots may be planted in a warm Border of this Compoſt, and they will ſucceed tolerably, but it is beſt to pot them.

They will flower much better, when taken into the Greenhouſe; and beſt of all, if brought to it in the Stove.

In this Caſe they muſt have frequent ſlight Waterings; and the Mould ſhould be drawn up about their Bottoms, as they riſe in Height.

For either of theſe Purpoſes, the Roots are to be taken up as ſoon as the Leaves are decayed; and to be planted in the Beginning of *Auguſt*.

The Method from Seed is excellent for new Varieties; and the Plants ſo raiſed, anſwer all the Trouble by their Beauty.

To this Purpoſe, let freſh Seeds be procured, if poſſible, from the *Levant*; if otherwiſe, let them be ſaved from the choiceſt and beſt ſtain'd Flowers here: and let them be ſown in Boxes of the Compoſt juſt named, in the Beginning of *October*.

Let theſe be placed in a ſunny Part of the Seminary during Winter: in Spring, let them have only the Morning Sun; and during Summer, let them be placed where there is Shade and Shelter.

All this Time the young Plants muſt be kept clear of Weeds; the weakeſt muſt be pulled up, where they ſtand too thick; and the Earth when dry, muſt have gentle Waterings.

When the Leaves decay, let the whole Surface of the Earth be ſtirred ſo lightly, as not to move the tender Roots, and let a quarter of an Inch of new Compoſt be ſcattered over them.

With this Management they will grow gradually, and at the Time when the Leaves are decayed, the ſecond Year they will be fit for tranſplanting.

To this Purpoſe, let a Bed be prepared in a very warm and ſheltered Situation; and well wrought up with the ſame Compoſt.

Let all the Mould be taken out of the Boxes, and ſifted carefully thro' a fine Sieve; the Roots will remain behind, and they muſt be planted out into the Border immediately. 'Tis beſt to ſet them a Finger's Length diſtance, and to cover them an Inch with Mould.

Thus they will riſe to the Condition of the other Roots, and they are then to be treated in the ſame Manner: Where there are all the Conveniencies of Gardening, we ſhould direct that the greater Part of them ſhould be planted in a warm Border, and the Remainder potted; ſome for the Stove, and others for the Green-houſe.

By this various Management, the Gardener will learn an important Leſſon, which he will find hold true univerſally: that altho' Plants from warmer Climates, will ſometimes keep alive in the open Air, and flower in it; yet there will be no Compariſon between ſuch, and thoſe kept in the Stove, in Beauty.

6. PROLIFEROUS DAISY.

Plate XVIII. Fig. 6.

WE ſhall in no Inſtance be able to produce more Proof of that Luxuriance to which Nature may be carried by a right Culture than the preſent.

The Plant we now propoſe to the Attention of the Student with all its Bigneſs of Flower and Fullneſs of Petals, with all its Offspring round about its Sides, is nothing more in Species, than the common Daiſy of our Meadows, rais'd by various Degrees to more and more Luſtre.

We ſhall endeavour to lead the Student thro' theſe ſeveral Stages, and he will thence learn how to conſider other, the moſt unbounded Inſtances of Variation.

The common little Daiſy of our Fields is ſometimes altogether white; and ſometimes edg'd with red. Of this, the Gardener took his firſt Advantage, and raiſing Seeds from the plain, white, and the red tip'd Kind, obtained two Varieties, a larger Flower all white, and a larger altogether red.

From the Seeds of theſe impregnated with one another's Farina, the Work of the Winds, not any Conſultation of the Gardener, roſe a third Kind, the pyed or variegated. Thus ſtood the Account, after the ſecond Years of Culture.

But farther Management of the ſame eaſy Kind, produced in a Year more, the vaſt double

White, the vaſt double red, and the double pyed Daiſy.

Theſe were extremely prized, till farther Excellence from the ſame Stock degraded them. The three Kinds were produced more double, with their Petals raiſed in Bubbles; and afterwards theſe twiſting into a Kind of irregular Tubes, gave the quill'd Daiſy, a very elegant Flower.

Thus long the Daiſy kept its Form tho' double; but more Care and Culture burſt the Flower into another Shape: inſtead of the original and natural circular Form, the Daiſies of theſe three Kinds now burſt their ſlight Cups irregularly, and ſpread into an unequal Flatneſs creſted and waved.

This, as it appeared ſingular, was valued; and, tho' an Imperfection, became conſidered as a Beauty. And hence the Coxcomb-daiſy, white red, and ſpeckled.

Laſt of all, a better Culture of the great double red Daiſy, inſtead of throwing the Flower out of its natural Shade, ſwelled it in that Form to a greater Size and Thickneſs, and raiſed from its Centre at the Footſtalk, an Offſpring of little Daiſies ſupported on ſlender Pedicles, and making an outſide Ornament.

This is the State in which we figure the Plant, and treat of it in this Place, under the Name of proliferous Daiſy: the Gardener calls it Hen and Chickens.

Linnæus conſidering it as a Variety, names it under the Title of *Bellis hortenſis prolifera.* Its diſtinctive Name with him in the common ſingle State is, *Bellis ſcapo nudo*, naked ſtalk'd Daiſy; but the ſame Luxuriance which in this Variety raiſes the Offſpring about the parent Flower, puſhes out ſome ſmall Leaves on the Stalk.

The Root and Leaves reſemble thoſe of the original plain Daiſy, except that they are larger, and every Way more luxuriant.

The Root ſends out more Fibres; and the Leaves where they are moſt full, have the middle Veins a little rediſh; and are irregularly wav'd, or bluntly indented on the Edges.

The Stalks are numerous, tall in Proportion to thoſe of the common Daiſy, of a pale green, but a little rediſh at the Bottom, and ſometimes naked; ſometimes decorated with a little filmy Leaf.

On the Summit of each Stalk ſtands one principal Flower ſurrounded with five or ſix minute ones.

The central Flower is ſo large, the Stalk uſually bends with it, and its Colour is red, more or leſs variegated with white: the little Flowers are paler. The Seeds are placed afterwards upon a ſwelling Receptacle.

To acquaint the Student with the Structure of the Flower in this Plant, we muſt refer him to its plaineſt and ſimpleſt State.

Here, as in other Caſes, the Garden courts the Eye; but Botany is to be ſtudied in the Fields.

The Flower, when no Part of it is altered or obliterated by Culture, is of the compoſite radiated Kind; and conſiſts of two Sorts of Floſcules. The Cup wherein it ſtands, is form'd of an irregular Number of Leaves equal in Size; and the two Kinds of Floſcules are diſpoſed, as is uſual in the compoſite Kinds; the tubular, which are moſt numerous in the Diſk, and the ligulated, which are not a few upon the Edge.

The tubular Floſcules contain both Male and Female Parts: it is in theſe therefore, that the Characters of the Claſs are to be read: the ligulated or flat have only the Female.

The Filaments in the tubular Floſcule, are five, and their Buttons coaleſce into a Cylinder. This ſhews the Plant is one of the Syngeneſia, and as they ripen their own Seeds, as well as impregnate the Rudiments of thoſe in the Female Flowers, the Plant is one of that Diviſion, in which the various Impregnation is unneceſſary, the *Polygamia Superflua* of Linnæus.

Culture of the Proliferous Daisy.

The original Method of producing thoſe ſeveral Varieties we have named from the common Daiſy, has been by Seed, and in that Manner they may ſtill be raiſed by thoſe who ſhall from Curioſity try the Experiment, beginning with the Seeds of the common Daiſy, and every Year ſowing thoſe of the beſt Kinds that have been produced, with due Care.

This is an Article of great Conſequence, as a general Conſideration, tho' not with Regard to this particular Species; and we ſhall in a ſucceeding Number, give it at large under the Head of raiſing double Flowers.

At preſent our Gardens are ſo well ſtocked with all the Varieties, and this proliferous Kind among the reſt, that it would be idle from any other Motive than Curioſity, to ſow them.

They are encreaſed eaſily, by parting the Roots; and always thrive the better for it: keeping their Kinds and Colours regularly under this Management; tho' when left ſeveral ſucceſſive Years unremoved, they will by Degrees dwindle into a common Field Daiſy.

No Compoſt is required for them, their own Earth in its beſt Condition anſwering the Purpoſe better than any Mixture: but to preſerve them in full Beauty, this ſhould be yearly changed.

For their firſt Reception, let there be choſen an Eaſt or Weſt Border; for the South Sun and the Northern Chillneſs, are both improper.

Let there be laid in this a Quantity of rich paſture Earth, ſuch as is of a firm Compoſition, and of the loamy Kind.

About the Middle of *September*, let this be got ready; and let ſome good Roots parted from a thriving Stock be ſet in it, at eight Inches diſtance.

Let them have Water if the Seaſon be dry, and they will flower ſoon in Spring; and ſome at this more early Period.

After the firſt Plantation, nothing is required, but that the ſame Care be every Autumn repeated. Let the Roots be taken up at that Seaſon: the Earth in which they had grown carried

Pl: 18.

Snow Drop

Jacobæan Amaryllis

Winter Wolfs bane

Double Colchicum

Proliferous Daisy

Variegated Colchicum

Blue Starry Hyacinth

J. Hill delin. et sculp.

ried away: and freſh Soil from a Paſture brought into its Place: In this let them be carefully planted, as at firſt; and they will from Year to Year improve, rather than decline.

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7. BLUE STARRY HYACINTH.

Plate XVIII. Fig. 7. There are ſeveral Kinds of the ſtarry Hyacinth, which from their early flowering have the Name of Vernal; but this naturally riſes earlier than moſt of them, and, with a little Art, ſome Roots of it may be brought to match their celeſtial Blue, with the cleareſt Sky at this Seaſon.

The Botanical Writers of late Time all name the Plant, for ſince its firſt Appearance in the *Europæan* Gardens in the Year Fifteen Hundred and Ninety, none could omit to celebrate its Beauty.

The *Engliſh* Name is a Tranſlation of that by which it is commonly, tho' improperly called in *Latin*, *Hyacinthus Stellaris cælureus*; to this, C. Bauhine adds, *Amænus*, on Account of its particular Beauty; others *Byzantinus*, from the Place whence we are ſuppoſed firſt to have received it; and others from the fine Blue of its Flowers, reſembling that of the *Borage* Flower, *Flore Boragius*.

Linnæus much more diſtinct and accurate, ſeparates this and the reſt of the ſtarry Kind from the other Hyacinths, and ranges them with the Squill. He gives in his ſpecifick Name for this a Character of the Flower; he calls it, *Scilla radice ſolida Floribus lateralibus alternis ſubnutantibus*: ſolid rooted Squill, with the lateral Flowers alternate, and a little drooping on their Footſtalks.

To thoſe acquainted with the old Botany, there will appear ſomothing ſtrange, even to Extravagance, in refering the ſtarry Hyacinth to the Squill: but the Fault remains not with him who removed it to this Place, and called it by this Name, but with thoſe who mixed it among the Hyacinths. The Error is not the leſs, becauſe many have adopted it. The Flower perfectly agrees in all its Parts with that of the Squill; and has not the leaſt Reſemblance to that of the proper Hyacinth.

This influenced Linnæus to remove it from the Place in which it had ſo long improperly ſtood; and with this all the others: 'tis one of his happy Boldneſſes in the Improvement of the Science; and thoſe to whom it appears moſt raſh, will on examining the Flowers find it perfectly juſt.

The Root is a large Bulb, roundiſh, white, fleſhy, and full of a thick mawkiſh Juice.

The Leaves are long and narrow, pointed at the Extremity, and of a deep and elegant green.

The flowering Stalk riſes to eight or ten Inches high, and is round, but a little ridg'd, juicy, and tender: of a whitiſh green at the Top; but towards the Baſe purpliſh.

The Flowers are numerous, and of a conſummate Beauty. They ſtand in a handſome Spike: they are placed on the ſlender Footſtalks, and their Weight in warmer Seaſons makes them droop a little; but it is not ſo with thoſe which are brought to flower at this Period; nor much with any.

Each Flower is compoſed of ſix Petals, regular in Size and Shape, and naturally full ſpread open.

They are oblong, broadeſt in the Middle, and ſharp pointed; and they are placed immediately upon the Foot-ſtalk, without any Cup.

The Colour is naturally a fine Sky-blue, but it is ſometimes paler, and ſometimes has a Glow of the Violet Purple: in the moſt perfect State of the Flower the Body of the Petals is of this celeſtial Blue; and there runs along the midſt of each, a Line of bloody Purple, which diffuſes itſelf in a more faint Tinge on each Side.

'Tis this which blending with the whole, gives the violet Purple to the entire Flower; but the moſt perfect Condition is, that it ſhould be diſtinct.

In the Centre of the Flower riſe ſix ſhort Filaments of a violet Blue, and in the Midſt of them a ſingle Style; this is alſo of a violet Purple at the Top, but toward the Bottom whitiſh.

The Foot-ſtalks of the loweſt Flowers are conderably long, and uſually they are tinged with a pale Crimſon. Sometimes in a very beautiful Manner.

The Claſs to which this Plant belongs, is read conſpicuouſly in the Filaments and Style, the former being ſix, refer it to the *Hexandria*; and the ſingle Style ſhews it to be of the firſt Section, under that Head, the *Monogynia*.

Culture of the Blue Starry Hyacinth.

The common Method of propagating this Plant is by Off-ſets from the Roots; but for thoſe who entertain the true Spirit of Gardening, and with Curioſity unite the Patience, the Buſineſs is to be done by Seeds.

This Method has the Advantage of raiſing new Varieties; and the other, the Diſadvantage of ſpoiling the flowering: for when the Roots are frequently cleared from their Off-ſets, they produce only a ſingle Stalk; whereas, when they are entire for four or five Years, every Root ſends up a whole Cluſter of Stalks loaded with Flowers.

The beſt Soil for this Kind is this. Mix together a Load of dry paſture Earth, half a Load of Pond-mud, a Barrow of Sand, and the ſame Quantity of rotted Cow-Dung.

Let theſe be well blended, by often turning and expoſing to the Air, during the Winter and the ſucceeding Summer.

In Autumn, let the Gardener prepare ſome

Beds of this for ſuch Roots as having ſtood ſeveral Years, require to be taken up and parted. and let him at the ſame Time fill ſome Boxes with it, for raiſing the Plants from Seed.

In the latter End of *September* let the parted Roots be planted in thoſe Beds, covering them two Inches.

After this, they are to be ſheltered in extreme ſevere Weather, and kept clear from Weeds.

The Seedlings are to be treated as other bulbous Kinds. The Seeds are to be covered only a quarter of an Inch at ſowing; the young Plants muſt be kept clear from Weeds and Moſs, and in Winter muſt have the full South Sun, but in the Summer, only the Morning Sun for two Hours.

When they are thus nurs'd up to the Time of planting, that is to be done in a Bed of the ſame Compoſt, an Inch and a half deep, and at five Inches diſtance.

They will gather Strength quickly in this Place, and when they flower, there will be found a great deal of Variety. I have thus raiſed from the ſame Seeds, blue violet and white Flowers.

As ſoon as they have flowered, the worſt Kinds muſt be taken up and planted in common Borders, where they will be leſs regarded. The fine ones will be thus kept together; they will be thinn'd ſo as to have good Room for Nouriſhment, and the ſucceeding Years they will ſend up three or more Stalks from every Root.

They muſt every Autumn have a ſlight Covering of freſh Compoſt ſcattered over the Bed; and be kept clear from Weeds at all Times.

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C H A P. II.

The Management of the Flower-Garden.

WE have ſpoken in a particular Manner on many Occaſions of the Art to prolong the Appearance of Flowers, by planting their Roots later or earlier than the common Time.

What we adviſed for the late mentioned Species, is now to be put in Practice, for many of thoſe which are to paint the Borders for Spring, and the firſt Months of Summer.

Let the Gardener take the Advantage of a fine Day, and plant ſome Ranunculus's, and other the Spring Flower Roots. The Conſequence will be, that when the reſt are decayed and gone, theſe will come in Seaſon, and continue the Spring Products to the Time of the Summer Flowers.

There will require more Care to be taken of theſe, than of ſuch as are planted at better Times. But we expect our Gardener to be careful; and we ſhall tell him how he may enſure Succeſs.

Many have try'd this Plantation, but have found it fail; Rains rotting, or Froſts deſtroying the new planted Roots.

Let our Gardener remember the Principles upon which we have eſtabliſhed the Foundation of his Art, and he will know how to prevent theſe Accidents.

Rains cannot rot the Roots unleſs they lodge; and in a Bed tolerably prepared, they are not dangerous, except when the Roots are new planted.

As to the other Article, it depends for its Force in a great Meaſure upon the firſt: a common Froſt will be very deſtructive to Roots in wet Ground; but it muſt be a ſevere one indeed, that affects ſuch as lie dry.

Let our Gardener dig up the Bed where he intends to plant theſe Roots, and ſpread over it a Mixture of one Part Coal Aſhes, and two Parts Sand.

Let him tread this in, and then dig the whole over again, and let the Quantity of Sand and Aſhes be as much as would cover the Ground an Inch and half deep.

Let him make the Bed, as for the Autumn Plantation, but plant the Roots half an Inch deeper, and round the Bed more at the Top to throw off the Wet.

This done, let him place ſome Hoops over it at a due Diſtance, that he can cover it upon Occaſion; and thus leave them to Nature, only now and then ſheltering them from exceſſive Rain, or defending them from ſevere Froſts.

This is to be done by two different Methods. The Shelter from Rain, muſt be by Means of a Mat drawn over the Hoops; and the Defence againſt Froſts is, by covering the Ground with Pea-ſtraw.

Every Shower is not to be thus guarded againſt, nor every froſty Night; but only when either is in the Extreme; for on all common Occaſions, the Dryneſs of the Soil, the round Shape of the Bed, and the Depth at which the Roots are placed, will preſerve them.

SECT. II.

The Buſineſs of the SEMINARY, *for this Week.*

THE Buſineſs of the Seminary will be now encreaſing. There are many of the hardy Shrubs which muſt be ſown in the Beginning of the ſucceeding Months; and for theſe Preparation muſt be made now.

Let a Piece of Ground be ſelected for this Purpoſe, that is open to the Morning Sun and not expos'd to the cold Winds. Bring on ſome freſh Earth from a dry rich Paſture, and ſpreading it an Inch thick over the Ground, dig it in. Then throw up the Mould all together in two Ridges, Eaſt and Weſt, and thus leave it for the Air to moulder and impregnate.

After this, if the Weather be froſty, nothing more is to be done, but overlooking the Ground, and defending the ſeveral Crops, as we have before directed, by ſtrewing Peaſe-ſtraw over ſome, and drawing Mats or Cloths over the Hoops of the others.

If the Weather be milder, ſomething may be done in pruning of the hardier Kinds of Trees.

A great deal of Art is to be employ'd for bringing the Shrub and Tree-Kind introduc'd into Gardens, to proper Form. There are many of them whoſe Leaves are a great Ornament; and, in ſome, the very Manner of Growth has its Beauty. In theſe Caſes various Methods are to be employ'd, according to the Intent and Purpoſe of the Growth.

Let the Gardener conſider whether the Deſign be to diſplay wild Nature in a full Freedom of the Growth, or to train up the Shrub to Form.

In thoſe Caſes where the Manner of Growth is naturally beautiful, he has nothing to do but to take out dead, or turn aſide ill growing Branches.

Nature's Wildneſs is uſually attended with Irregularity; and the Buſineſs of Art, in this Inſtance, is to preſerve the one without permitting the other to appear.

Therefore in thoſe Shrubs intended for full Freedom of Growth, let him ſee if any Bough runs out in a bad Place too long for all the reſt, and in that Caſe he is to take off the Top. If any where the Branches ſtand too cloſe, let him take out a middle one from among them, or thin one of its Shoots; and finiſh this Work by making the Boughs in general, tho' ever ſo wild in their Diſpoſition, run clear of one another.

This done with the wild growing Kinds, let him trim up the others to a Head; but let him always leave more of that than might appear juſt ſuitable to the Size; and let him leave alſo ſome ſmall Shoots upon the Stems; for otherwiſe the Sap will not be drawn up in due Quantity.

In all theſe Things Moderation is the Rule: this let the Gardener obſerve ſtrictly; for he who uſes his Knife too freely, is worſe than he who utterly neglects the Trees.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THIS is the Seaſon for providing an early Crop of Strawberries: they will be very valuable for coming ſo long before the others; and the Expence and Labour are trifling. Some good Roots are to be potted for this Purpoſe, and their Fruiting is to be brought forward by a Hot-Bed: this is the general Buſineſs, but a great deal depends upon a proper Management.

In the firſt Place, there is one Kind that ſucceeds better than the others in this Method: this is the Scarlet Strawberry: therefore let the Plants be of this Sort; and it will be proper to mix three or four Pots of the great *Chili* Strawberry among them: theſe, with good Management, will ſucceed; and their Fruit, which is as big as a Pullet's Egg, will make a fine Figure among the reſt in a Deſert.

Let as many middle-ſiz'd Pots be provided as will ſtand in a moderate Hot-Bed; bring in ſome dry Earth from under the Turf in a rich Paſture, and break in among it a little Wood-Soot, and ſome fat Marle; or, in Want of that, a little ſoft Chalk.

With this, when well mix'd, cover the Bottom of the Pots three Inches deep.

Let a Hot-Bed be got ready, and let Care be taken that it have an equal and a moderate Heat.

Let the Gardener take the Opportunity of the firſt mild Day, when the Earth is looſen'd from the preceding Froſts; to take up the Plants in this

Manner. He muſt mark the ſtrongeſt Roots in his Scarlet Strawberry Beds, which he will eaſily diſtinguiſh at this Seaſon, if they have been manag'd as we directed. The Pots muſt be brought to the Place, and theſe Plants taken up, by cutting in all round them, at ſome Diſtance, that each may come up with a large Ball of its own Earth.

If there be any bruis'd Roots, let them be trim'd off; and let the Plant, with its Ball, be plac'd upright in the Pot: then fill up with the Compoſt, and draw a little of it about the Head of the Plant, over the Surface of the other Mould.

This done to all the Pots, one good Plant being well fix'd in each, ſet them all in a ſhelter'd ſhady Place, for five Days, watering them gently every Morning, till they are thoroughly fix'd in their new Earth.

After this, let them be ſet as cloſe as they will ſtand in the Hot-Bed, bringing the Mould up to the Rim of them.

In tolerable Weather let them have Air; and let them be water'd often a little at a Time. This will bring them forward very faſt; and the Heat of the Bed being kept up by freſh Dung at the Sides, when wanted, the Fruit will ripen in good Quantity, and be tolerably well taſted.

The *Chili* Pots will require more Water than the others, and they ſhould be plac'd at the Corners of the Bed.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

LET the Gardener's firſt Buſineſs, in this Part of the Ground, be to look over his Cauliflower Plants: he has taken ſo much Care of them hitherto, that it would be very idle to let them ſuffer thro' Neglect; and this is the Time when they are moſt in Danger.

Let him ſtir the Surface of the Mould within the Glaſſes, and dig it up round about on the Outſide. Then let him take off any dead Leaves; draw the Mould a little up about the Stems; and in the Middle of the Day, unleſs when the Froſt continues very ſevere, raiſe the Glaſſes by a Brick, and give them a little Air.

Let the Straw that has been laid upon the Muſhroom Beds, to preſerve them from Froſt and Wet, be remov'd once in three Days, and freſh laid in its Place; for if it grow damp, and heat, there will be more Miſchief from it than good.

We laſt Week directed planting the Cabbage Kind for Seed; and this will be proper for the Management of Endive in the ſame Way.

Let the Gardener dig up a Border in a dry Place, throwing on ſome Sand, and blending it well with the Mould.

Let him round it high, that no Wetting lodge on it, and then drawing Lines lengthway and acroſs, at fifteen Inches Diſtance, let him plant one Root of Endive in the Centre of each Square.

Theſe Plants are to be brought directly from their Bed to this Ground, with a Ball of their own Earth; and ſuch muſt be choſen as are fulleſt of Leaves, and have them moſt curl'd.

Let the Mould be gather'd up about each Plant, in a kind of Hill; and let the Bed have a little Water between them.

After this they will require only to be now and then water'd in very dry Seaſons, and to have the Weeds always clear'd away from between them.

E D E N:

A

Compleat Body of Gardening.

* * *

NUMBER XIX.

For the ſecond Week in *JANUARY.*

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SECTION I.

FLORA, or the Pleaſure-Garden.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

I. HEART-LEAV'D BORBONIA.

Plate XIX. Fig. 1.

THIS is one of the numerous Vegetable Tribe that owe ſome Part of their Beauty to the wild Manner of their Growth. None will diſpute its Claim to Attention, for the hearted Leaves, its tufted Tops, and not inconſpicuous Flowers: but the Eye of Taſte regarding with theſe its general Face and Manner of Growth, declares it worth all Care in Management and Preſervation.

The earlier Writers were not acquainted with this Plant; but of late Time many have ſeen, and all of them honour'd it with a particular Attention.

Seba has nam'd it *Geniſta Africana fruteſcens*—Commeline, *Spartum Africanum* — and Plukenet, acknowledging he knew not whither to refer it, *Frutex Æthiopicus foliis Ruſci* —Linnæus, ſeparating it from the Genera before-mention'd, names it *Borbonia*; and adds, as the Diſtinction of this Species, *foliis cordatis multinerviis integerrimis. Borbonia*, with heart-ſhap'd undivided Leaves, mark'd with numerous Ribs.

The Shrub ſpreads into many Branches, and is naturally but a Foot and half high.

The Root is fibrous and whitiſh.

The Stem is round, tough, of a greyiſh Colour, bent, irregularly upright, and full of Leaves.

Theſe, without Footſtalks, grow to it in a regular Manner: their Baſe is the broadeſt Part; and in the Midſt of that there is a Hollow for the Inſertion at the Stem. From this Part they gradually grow ſmaller to a Point.

Their Colour is a beautiful green, with a Tinge of blueiſh; the Nerves run high upon them, and their Point is prickly.

From this main Stem run many Branches in perfect Irregularity. Theſe are greyiſh near the Stem, and for the reſt of a pale Crimſon, which becomes grey as they grow older.

On theſe ſtand numerous Leaves; and on their Tops thick Tufts of intermingled Foliage and Flowers.

The Leaves in theſe Tufts are paler, and leſs regularly ſhap'd than on the lower Parts of the Plant.

The Flowers which take their Riſe among them, exceed them in Length, and are in Colour of a very bright and ſtrong gold yellow.

Theſe are follow'd each by a Pod, which is terminated with a very ſharp Spine, and contains a ſingle Kidney-ſhap'd Seed.

Every thing about the Flower demands and deſerves the Attention of the Curious.

Its Cup is form'd of a ſingle Leaf, and divided into five Segments; of theſe the loweſt is longer than the others; and they are all firm, harden'd at the Points, and prickly.

The Body of the Flower is compos'd of five Petals, and is truly papilionaceous. Its Form is ſingular, and on the Outſide it is hairy.

The Vexillum is rounded and turn'd backward, and has a narrow Bottom of the Length of the Cup. The Alæ are ſhorter than the Vexillum, and are nip'd at the Tips. The Carina is form'd like a Creſcent, obtuſe, and compos'd of two Petals.

Within the Flower are plac'd nine Filaments: theſe unite in their Bodies, and form a Cylinder; and their looſe Ends turn up: among theſe riſes a ſingle Style.

The Student will be perplex'd at this Diſpoſition: he will not well know to what Place to refer the Plant in the LINNÆAN Syſtem, nor is there indeed any to receive it. Let us not fear to improve the Writings of an Author we reſpect, but as freely as we applaud, diſplay his Imperfections to the Reader, that he may ſupply the Deficience.

The Diſpoſition of the Filaments in this Plant is the ſame with that of the nine in the *diadelphous* Tribe, but there wants the Tenth.

We have already ſhewn the Student, that in this Claſs nine uſually form a long cylindric Body, which has an Opening at the Top, and there, a ſingle one falls into the Slit. This is the Structure of the papilionaceous Flowers, and hence LINNÆUS calls them *diadelphous*.

Here there are the nine, they form the Cylinder, and they ſplit at the Top; but there wants the Tenth to cover that Opening. 'Tis the Addition of this tenth looſe Filament which conſtitutes the very Name and Character of the *diadelphous* Claſs: the Term expreſſes that the Filaments ſtand in two Aſſortments; one and nine. This is not the Caſe here, therefore the Plant ſtrictly cannot be referr'd to this Claſs.

There is another Claſs, the *Monadelphous*, form'd for the Reception of thoſe Plants which have the Filaments connected in their lower Part, into a ſingle Body. This might receive the Plant in Strictneſs; but in that Caſe the *Borbonia*, which has a *papilionaceous* Flower, would be divided from the *Papilionaceous*, ahd plac'd among the *Malvaceous* Tribe, which are utterly diſtinct.

Nature abhors theſe Violations: and if we give into it, in the preſent Inſtance, 'tis not the *Borbonia* alone that muſt be remov'd out of its natural Place.

LINNÆUS retains it among the *Diadelphia*, tho' at the Expence of his Claſſical Character; but this cannot be right. His Definition of the *Monodelphous*, is, *Stamina filamentis in unum corpus coalita*: of the *Diadelphous*, *Stamina filamentis in duo corpora coalita*.

As there are others of the *papilionaceous* Plants, beſide the *Borbonia*, which want the looſe upper Filament, they are not *diadelphous*, while by their univerſal Form they are declar'd not of the *monodelphous* Kind, altho' their Filaments would ſpeak it. Therefore there wants, in the modern Syſtem, a Claſs to receive thoſe *papilionaceous* Plants which have nine Stamina united, and no looſe one.

This I apprehend cannot be introduc'd without changing the preſent Terms.

The Word *Columniferæ*, us'd by ſome of Character in Botany, very well receives the *malvaceous* or proper *monadelphous* Kind: this therefore may be us'd inſtead of *Monadelphia*; and two other Claſſes with other Names, aboliſhing the ſingle *diadelphous*, may be form'd to receive thoſe Plants whoſe Filaments unite and ſurround the Piſtil; the one containing thoſe which have nine Filaments united, and a ſingle one looſe above; the other, thoſe which have the nine united, but not the ſingle one.

The firſt would contain the common *papilionaceous* Plants, the other theſe.

Culture of the BORBONIA.

It is to be rais'd from Seeds. Theſe ſucceed beſt when brought from *Africa*, where it is native; but the Plant will ripen them here, and they will grow freely.

In its wild State, at the *Cape*, it covers the Sides of ſandy Hills, where there is rich Matter among the crumbling Mould; and never thrives ſo well as where it fringes the Bank of ſome trickling Spring.

This directs our Culture; and we ſhall ſucceed beſt if we give it a looſe yet not poor Soil, and a good deal of Water.

Let the Compoſt be this:

A Barrow of Earth from an upland Paſture, a Buſhel of Sand, and a Peck of rotted Cow-dung.

Early in Spring fill a Couple of Pots with this, and leave the reſt till wanted.

On the Surface, in theſe Pots, ſcatter ſome of the Seeds; ſift over them a Quarter of an Inch of the ſame Compoſt, and ſet them up to the Rim in a Bark-Bed.

Now and then give a gentle Watering; and, when the Plants riſe, repeat it oftener, and give them Air in the Middle of the Day.

When they have a little Strength, raiſe the Pots to the Surface, and give them more Air.

Soon after this, tranſplant the ſtouteſt of them into ſeparate Pots of the ſame Compoſt; and put theſe into the Bark-Bed, watering and ſhading them till rooted.

Then by Degrees bring them out into the open Air, among the Greenhouſe Plants, and at Autumn remove them into Shelter.

They will not require the Stove-Heat in Winter; but, if preſerv'd from Froſt, and allow'd Air in the Middle of mild Days, will flower all the Year.

2. PURPLE STARRY SENECIO.

Plate XIX. Fig. 2. This elegant Plant deſerves its Place wherever Exotics are preſerv'd. The ſingular Raggedneſs of its Leaf, and the Number and Beauty of the Flowers, demand Attention: and it has the Excellence of long Continuance in Luſtre; for, with good Management, it will be covered with full-blown Flowers all Winter.

It was not known to the earlier Botaniſts; but of the later moſt have deſcrib'd it, tho' under various Names. VOLKAMER calls it *Jacobæa flore amplo.* — COMMELINE, *Aſter foliis Senecionis.* — LINNÆUS, who has very happily divided and arranged the compoſite flower'd Kinds, includes this under his Genus of *Senecio.* He adds, as the Diſtinction of the Species, *corollis radiantibus foliis pinnatifidis æqualibus patentiſſimis rachi inferne anguſtata:* Radiate-flower'd *Senecio,* with equal, expanded, and pinnatifid Leaves, the Rib narrower below.

The Plant is ſhrubby, tho' its upper Branches are tender; and riſes with a wild Irregularity to a Yard in Height.

The Root is woody, ſpreading, brown, and hung with many Fibres.

The main Stem is of a pale brown, and the young Branches are green, and ridg'd.

The Leaves grow, without Footſtalks, over the whole Plant, and they are of a ſingular Form; long, broad, and divided down to the Rib, or nearly ſo into many long and ſinuated Segments. Thoſe on the lower Part are more deeply cut than ſuch as grow toward the Tops of the Stalks; and the Colour of them all is a freſh and pleaſing green.

The Flowers cover the whole Plant when it is kept in Vigour, riſing in Numbers from the Tops of the Branches. They are very large, of a beautiful Colour, between Crimſon and Purple, and have a yellow Diſk in the Centre. The Seeds which follow are wing'd with Down.

We have inſtructed our young Botaniſt in what Manner to examine the Compoſite Flowers, and he will therefore enter eaſily into the Conſtruction of this; and as familiarly, by that proper Enquiry, find the Plant's Claſs.

The Cup he will perceive to be compos'd of numerous Scales, in ſeveral Series: this diſtinguiſhes it from the *Othonna,* whoſe Cup is of one Piece, only divided at the Edge. Within this he will find a radiated diſcoide Flower; that is, a central Diſk of collected Floſcules, ſurrounded by numerous ſplendid Rays.

We have inform'd him, that in theſe Flowers there are two Kinds of Floſcules, the one containing the Male and Female Organs of Impregnation, the others only the Female. Thoſe of the firſt Kind are perfect; for in the Vegetable Kinds the Hermaphrodite is the perfect Production.

Let him take from the Centre of the Diſk one of theſe, and he will find it tubular, wide at the Mouth, and there divided into five Segments, which turn backwards. Within this he will ſee five very ſmall Filaments, whoſe Buttons form a Cylinder.

This is the Character of the ſyngeneſious Tribe; it therefore ſhews the Plant is to be referr'd thither: but there requires yet a farther Attention to the Parts, to know under which of the ſeveral Sub-diviſions of that Claſs it is to be arrang'd.

The female Floſcules which ſurround theſe perfect ones at the Verge, are oblong, and ſlightly divided into three Points at the Extremity: theſe have the female Part, as in the others, which is a Rudiment of a Seed with a ſingle Style; and after theſe, and the tubular or hermaphrodite Flowers equally, there are produc'd ripe Seeds.

The Duſt from the Buttons of the tubular Flowers impregnates their own Rudiment, and alſo this; hence the Name *Polygamia:* and as there are ripen'd Seeds under the tubular Flowers, this is of the *polygamous ſuperfluous* Kind.

Culture of this SENECIO.

It may be propagated by Cuttings, or rais'd from Seeds: the former is the eaſier Method, but the latter produces the handſomeſt Plants: we therefore prefer it; and there is little Trouble.

Let the Seeds be ſown upon a common Hot-Bed; and when the Plants have been once tranſplanted, let them be ſet in Pots of Garden-Mould. Let theſe be plac'd under a Frame, and ſhaded and water'd till they have taken Root.

After they have got ſome Strength in the Pots, let them be brought out in the Middle of a fine Day, and ſtand the Summer among the hardier Exotics.

At Autumn let it be remov'd into the Green-houſe; and there let the Gardener give it Air, and water it often; and let him obſerve always, as the Flowers fade, to take them off, that none may ſet for Seed, unleſs where that is wanted: thus it will continue in full Glory thro' the ſevereſt Seaſon, and be one of the greateſt Ornaments of the Place.

3. LONG-LEAV'D OTHONNA.

Plate XIX. Fig. 3. We propoſe here to the Gardener's Care a Plant not ſo conſpicuous as many others for its Flower, but very well worth a Place, from its regular and beautiful Manner of Growth.

The Generality of Authors who have nam'd it, call it a *Jacobæa*, but improperly: the Cup which is ſimple, not ſcaly, ſhews it an *Othonna*. This we explain'd at large under the preceding Head.

Commeline, who receiv'd the Seeds from *Africa*, under the Name of thoſe of a *Centaurea*, call'd the Plant he rais'd from them, *Jacobæa Africana fruteſcens folio longo & glauco*. — Linnæus, *Othonna foliis haſtatis integerrimis: Othonna* with ſpear-headed undivided Leaves.

The Root is white and fibrous.

The Plant riſes in an erect and regular Growth to four Foot in Height. The Stalk is round, hard, in ſome Degree woody; ſmooth on the Surface, purpliſh toward the Baſe; and, in the reſt of its Height, of a whitiſh green.

The Leaves are very long and beautiful: they grow to the Stalk by a hollow Baſe; and from that Part where they are broadeſt, diminiſh to a Point. They are lightly and irregularly wav'd or ſinuated, and their Colour is a fine blueiſh green.

The Flowers are plac'd in great Tufts at the Tops of numerous Branches, which riſing from the Boſoms of the upper Leaves, form, in the Whole, a broad and ſpreading Umbell. They are ſmall, and of the compoſite radiated Kiud. Their Colour is yellow; paler in the Rays, and deeper in the Diſk, but every where very elegant.

The Seeds which follow theſe are wing'd with Down.

The Cup in which each Flower ſtands, we have obſerv'd is form'd of a ſingle Piece, deep cut into Segments at the Top: theſe are about twelve, and they are narrow and pointed.

The Flower itſelf is compos'd, as in others of like Kind, of two Sorts of Floſcules: thoſe in the Centre of the Diſk are the moſt perfect; they are tubular, and nip'd into five Segments at the Edges; and in each of theſe ſtand five Filaments, with coaleſcent Buttons. This ſhews the Plant one of the *Syngeneſia*. The ligulated Floſcules at the Edge have only the Rudiment of a Seed and its Piſtil.

There are alſo theſe Parts in the tubular Flowers; but from ſome Imperfection in their Structure, the Seeds plac'd under them rarely ripen. Therefore the Impregnation of thoſe plac'd under the ligulated Flowers, is not ſuperfluous, as in the preceding Inſtance, and conſequently the exact Place of the *Othonna* in the Linnæan Syſtem, is among the *Syngeneſia Polygamia Neceſſaria*.

Culture of this Othonna.

It is a Native of the *Cape of Good Hope*, and there thrives beſt in a looſe moiſt Soil. Its Culture therefore with us is plain, from the Principles of Gardening laid down in our preceding Numbers.

Let the Gardener mix a Barrow of Meadow-Earth, half a Barrow of Pond-Mud, and a Buſhel of Sand.

In a Pot fill'd with ſome of this Compoſt, let him ſow the Seeds, obtain'd from *Africa*, or ripen'd here, early in Spring. Let the Pot be ſet up to the Rim in a Bark-Bed; and when the young Plants riſe, let all, except three or four, be pull'd up.

Let theſe, by frequent Waterings, be brought to a Height fit for Tranſplanting; then let them be plac'd each in a ſeparate Pot; and again ſet in the Bark-Bed till rooted. Then let them by Degrees be inur'd to the Air. Let them be ſet out in Summer, among the Greenhouſe Plants, and at Autumn taken into Shelter with them. They will flower in Winter.

4. CANARY SHRUB SAINT JOHN's WORT.

Plate XIX. Fig. 4. The Profuſion of golden Flowers that cover this Shrub, cannot fail to claim for it a Place among the moſt valu'd Exotics.

Moſt of the late Writers have nam'd it, and all with Praiſe.

Commeline, from the Abundance of its Flowers, calls it *Hypericum Canarienſe multiflorum*. — Plukenet, *Androſæmum magnum Canarienſe*. — Linnæus, *Hypericum floribus trigynis, calycibus obtuſis, ſtaminibus corolla brevioribus, caule fruticoſo:* Shrub *St. John's Wort*, with obtuſe Cups, with three Styles in the Flower, and the Filaments ſhorter than the Petals.—A long Name, but not unneedfully ſo: the *Hypericums* are numerous, and Nature wantons in thoſe Parts of Impregnation on which the modern Science reſts.

The Shrub is a Yard high, and variouſly branched. The Root is woody, ſpreading, and hung about with Fibres.

The main Stem is brown, and the younger Branches are ting'd with purple. The extreme Shoots are green and ſquare; but when they have ſtood a little, they loſe the Ridges and that herbaceous Colour.

The Leaves are oblong, broad, and of an elegant green. When held up againſt the Light they are of an entire Subſtance, not full of Millions of Holes, as the common Kinds of *St. John's Wort*.

Wort. Theſe grow in Pairs on the lower Parts of the Plant; but with leſs Regularity towards the Top.

The Flowers are innumerable, very large, and of a fine gold yellow. They ſtand all over the Tops of the Branches. Each Flower has its ſmall Cup, form'd of five little oval Leaves, united at their Baſes; and is itſelf compoſ'd of a like Number of Petals: theſe are oblong, expanded, and obtuſe. In the Midſt riſe a vaſt Multitude of Filaments, tip'd with golden Buttons; and in their Centre three Styles. The Seed-veſſel which follows, has three Cells, and contains in them many Seeds.

The Student tracing theſe numerous Filaments to their Baſe, to find whether they be inſerted on the Receptacle, or into the Cup, the Diſtinction of the *icoſandrous* and *polyandrous* Claſs, will, with an agreeable Surpriſe, perceive they are united into ſeveral Cluſters: counting theſe, he will find they are five; and he will thus ſee the Plant belongs to a Claſs, concerning which we have not before found an Opportunity to ſpeak. This is the *Polyadelphia*, the Eighteenth in the LINNÆAN Syſtem.

This, according to its Name, comprehends thoſe Plants in whoſe Flower the Filaments are connected into numerous Aſſortments; and as in this Plant theſe Filaments are in themſelves numerous, and have their Origin from the Receptacle, it belongs to the third Sub-diviſion under that Claſs, and is one of the *Polyadelphia Polyandria.*

Culture of this HYPERICUM.

In the *Canaries,* where the Plant is native, it thrives beſt in a looſe rich Soil, where there is ſufficient Moiſture. From theſe Circumſtances the Gardener will fall into a proper Method of its Culture; and it is to theſe he is on all Occaſions to pay Regard; neglecting the Inſtructions given in common Books, the Fancies of their Authors, or of thoſe whence they tranſcrib'd them.

This, tho' a Native of a warmer Climate than our own, will endure our Winters in the open Air; but let the Gardener ſo far conſider its Place of Growth, as not to put it into the open Ground at Random; but ſelect for it a warm and well defended Part of the Garden. There let him open as many Holes as he intends to have Plants; and taking away the common Mould, fill up with this Compoſt.

Mix equal Parts Meadow-Earth and Pond-Mud: add to theſe about one fourth of rotted Cow-dung, and the ſame of Sand: mix them well together.

The Holes being fill'd with this Compoſt, the Shrub may be either rais'd in them by Seed, or remov'd into them from the Nurſery, where it has grown from Cuttings; for theſe will ſucceed with the common Care if planted in Spring: but neither of theſe Methods is ſo eaſy or ſucceſsful as the planting Suckers.

Theſe are produc'd in Abundance from the Shrub, where it has ſtood any Time in a thriving Condition: and the Seaſon for taking them off is the firſt Week in *April.*

They may either be planted in the Nurſery, to take their firſt Growth, or at once where they are to remain. The firſt is the common Practice; but the latter is much the better Method.

They have nothing unpleaſing in their Aſpect while young; and they will always grow up in the beſt Manner, when they have no Removal after the taking them from the Root of the old Plant.

Upon theſe Principles let the Gardener fill up his Holes with the Compoſt, in the firſt Week of *April*; and ſoon after chuſing a ſhowery Day, let him, in the Evening, carefully take off as many Suckers as he wants, planting one in each Hole.

Let him give them a gentle Watering; thruſt down a ſhort Stick near each, and tye the Sucker to it with ſome Baſs: then every Evening let him water them all gently till they are well rooted. They will take freely to the new Ground; and thus the Foundation will be laid for ſo many handſome Shrubs.

At the ſame Time that theſe are planted into the open Ground, let a few be put into Pots of the ſame Compoſt. Theſe are intended for the Greenhouſe; where, by taking off the Flowers as ſoon as they fade, there will be a Succeſſion much longer than in the open Air.

As theſe Suckers grow up into Trees, the Gardener muſt take Care to keep them in good Form; and every Year look over them, with his Knife in his Hand, to cut away ſuch Branches as grow irregularly or croſs one another, and to ſhorten thoſe which are too luxuriant.

The Suckers muſt be alſo clear'd annually from the Root, whether they be wanted for planting or not, becauſe they weaken the Shrub; and the Ground at Times muſt be dug round about the Stem, and always kept clear from Weeds. Thus it will flower as freely as in its native Country.

4. WOOLLY HERMANNIA.

Plate XIX. Fig. 4. This is a Plant of very ſingular and agreeable Aſpect: the Form and Colour of its Leaves, the natural Wildneſs of its Branches, and the Diſpoſition of its Flowers all pleaſe the Eye extremely.

The earlier Writers were not acquainted with it: and thoſe who firſt deſcribed joined it raſhly with the Ketmias. COMMELINE calls it, *Ketmia Africana fruteſcens foliis mollibus & imanis.* PETIVER diſtinguiſhed it by a new Name, *Hermannia,* and under this it ſtands deſcribed by LINNÆUS, VANROYEN, and the reſt of the modern Botaniſts. The firſt adds as the Diſtinction of the Species, *foliis ovatis plicatis Crenatis tomentoſis*: *Hermannia* with oval, woolly, folded and crenated Leaves.

The Plant tho' ſhrubby, is but of low Stature: two or three Feet is its utmoſt Height.

The Root is divided, white, and hung with Fibres. The Stem is brown: the Branches which ſpread variouſly, are whitiſh, tender, and covered with a ſoft Down.

The Leaves ſtand upon theſe in perfect Irregularity; they are oblong, deeply ſinuated along the Edges, and of a whitiſh green, covered thick with a ſoft downy Matter, which makes them feel like Velvet.

The Flowers are very numerous, and of a ſingular Aſpect, they grow at the Tops of the Branches, and on Footſtalks from the Boſoms of the Leaves, two or three on each.

They are large, they droop, or hang downwards; and they are twiſted. Their Colour is a very delicate pale yellow.

Theſe riſe from a downy Cup, and at the Baſe of their Foot-ſtalks are placed regularly three oblong, narrow, undivided Leaves.

The Cup is formed of a ſingle Piece, ſwelled at the Baſe, and divided at the Rim into five Segments.

The Flower itſelf is formed of five oblong Petals: theſe ſpread at the Mouth, and turn toward the Sun; and at the Baſe they grow very ſmall, and have on each a Membrane running ſideways, which together form a nectiferous Tribe.

In this Flower ſtand five Filaments, which lightly cohere at the Baſe, and among theſe riſes a Stile, which exceeds them in Length.

The Seed-veſſel is roundiſh, but has five Ridges. The Seeds are numerous and ſmall.

The Number of the Filaments muſt not in this Caſe determine the Claſs, but their Coaleſcence into one Body at the Bottom.

The Student knows this is the Character of the monadelphous Tribe: and this Plant belongs to the firſt Diviſion of that Claſs, thoſe which have five Filaments: that being the ſmalleſt Number that is found ever to coaleſce at the Baſe.

Culture of the WOOLLY HERMANNIA.

The Plant is a Native of *Africa,* where it thrives beſt in a Soil that is looſe and free; not too rich, and with ſome Moiſture.

This muſt be our Indication of its Culture. Let a Compoſt be made for it thus.

Mix a Barrow of Earth from a dry Paſture, a Barrow of Pond-mud, and a Buſhel of Sand. Turn theſe ſeveral Times, that they may be well blended, and have the Benefit of the Air.

In this Soil, the Plant may be propagated either from Seeds or by Slips; but the Method by Slips, I have always found to be the beſt; and that for a plain Reaſon.

The Seedlings are to be tranſplanted, and they do not well bear it.

If any Way of Sowing be proper, it is to ſcatter a few of the Seeds upon ſome of this Compoſt, in a Pot, and covering them lightly, to leave them to ſhoot in a Hot-bed; and then pulling up all in each Pot but the ſtrongeſt Plant, to harden that to the Air by Degrees, without removing.

In the Way we propoſe by Slips, we ſhall direct the Gardener to put ſome of the Compoſt into Pots, and to place ſome in two or three different Spots of a dry, warm, and well ſheltered Border.

Let the Slips be ſhaded and watered carefully till they have taken Root; and they will thus come the ſecond Year to flowering

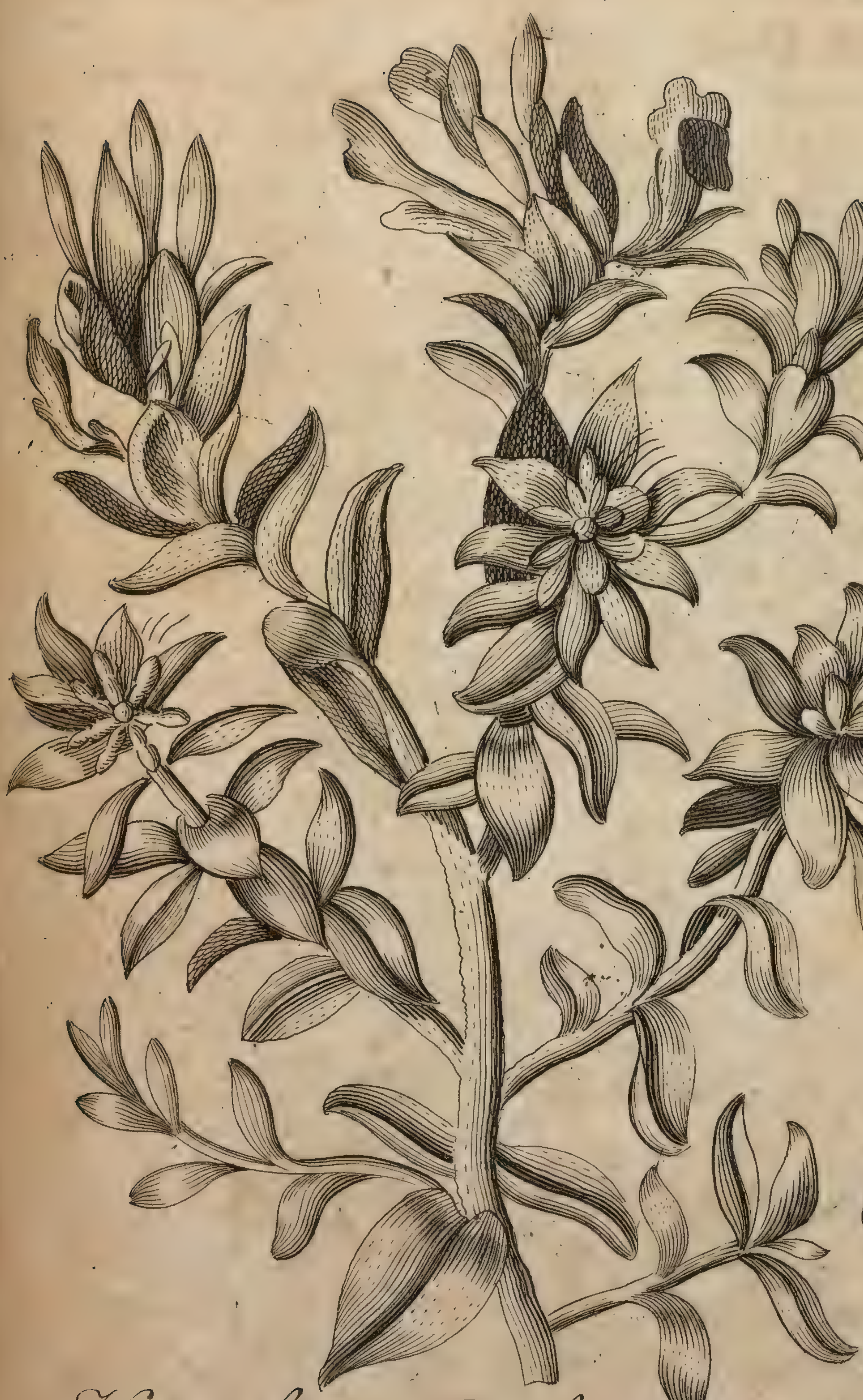
5. SAMPIRE LEAV'D SANTOLINA.

Plate XIX. Fig. 5. This is a very handſome, as well as ſingular Plant. The Leaves are unlike moſt of thoſe of the Greenhouſe Plants, and the Flowers though ſingly very trifling, ſtand in ſuch Cluſters that they attract the Eye and ſatisfy it.

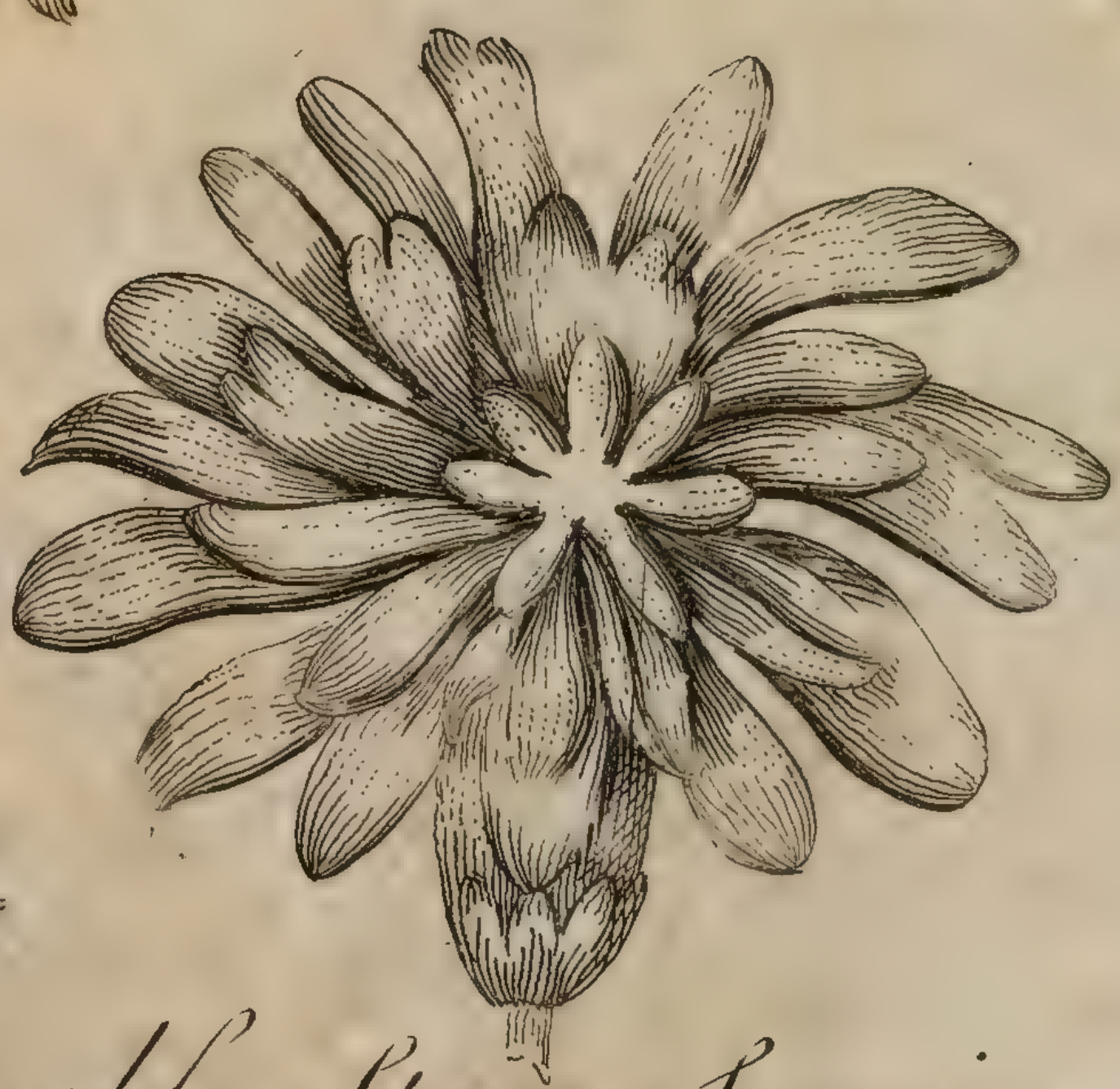
PLUKENET and COMMELINE have figured it; but both under improper Names. The firſt calls it *Jacobæa foliis abrotani*; — the other *Coma aurea foliis Crithmi.* LINNÆUS who has deſerved greatly of the botanical World, by properly arranging the ſyngeneſious Plants, makes this a *Santolina.*

He adds as a Diſtinction of the Species, *Corymbis Simplicibus faſtigiatis, foliis ſemitrifidis linearibus.* Narrow and trifid leav'd Santolina, with ſimple faſtigiated Cluſters of Flowers.

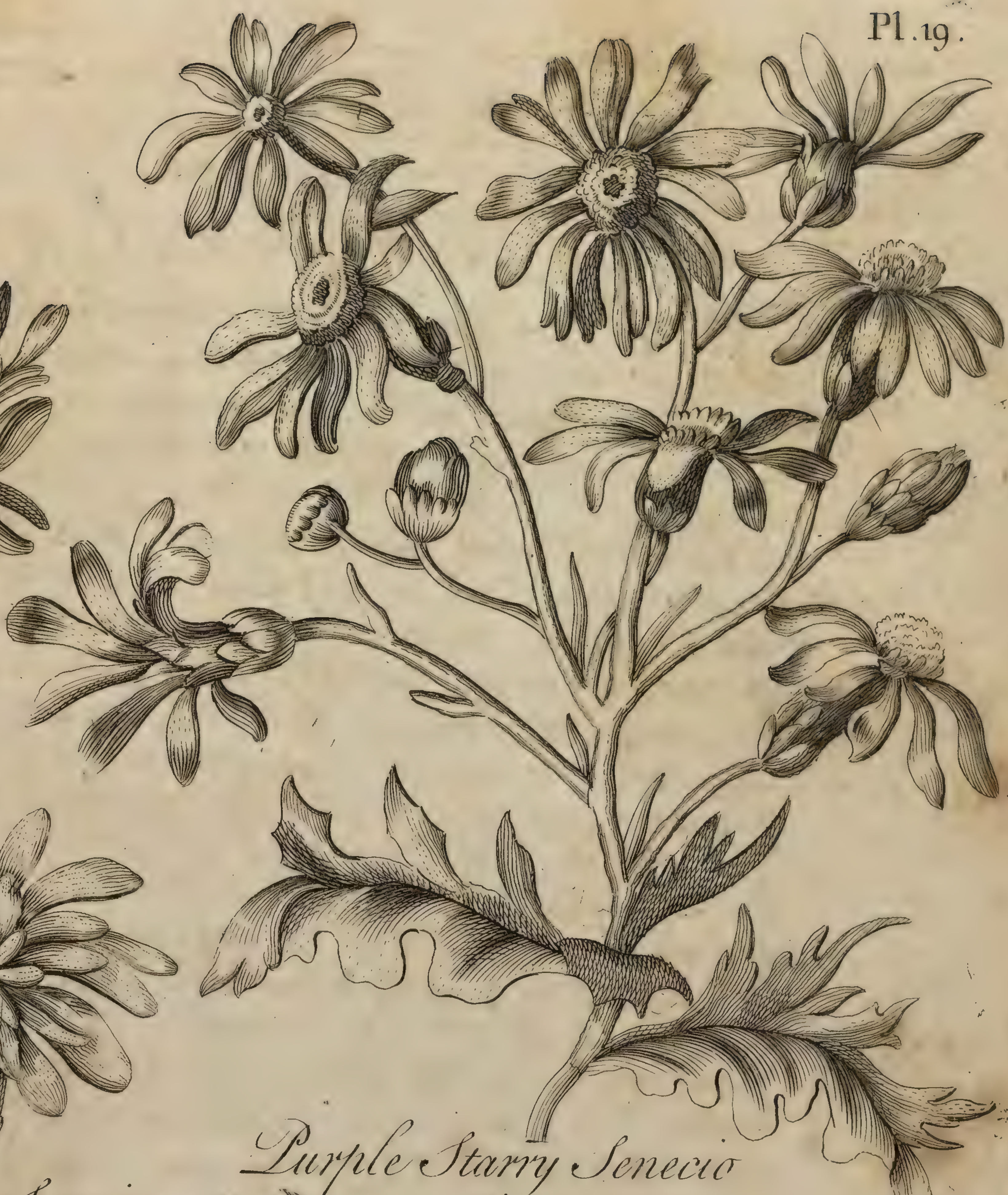
It is a Shrub of ſix Feet high. The Root is woody and ſpreading. The Trunk is firm and upright, and is covered with a rough Bark of



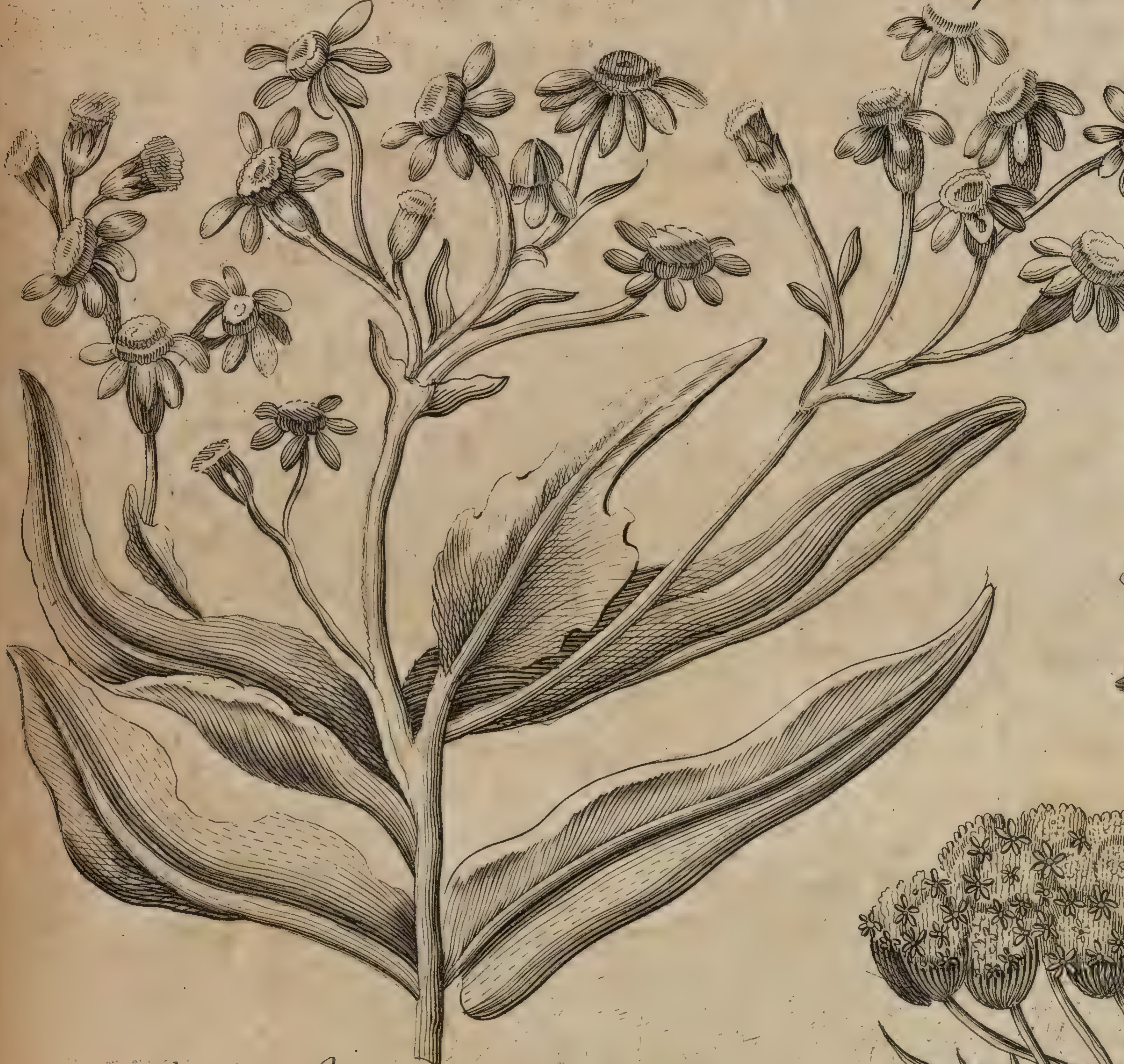
Heart leav'd Borbonia



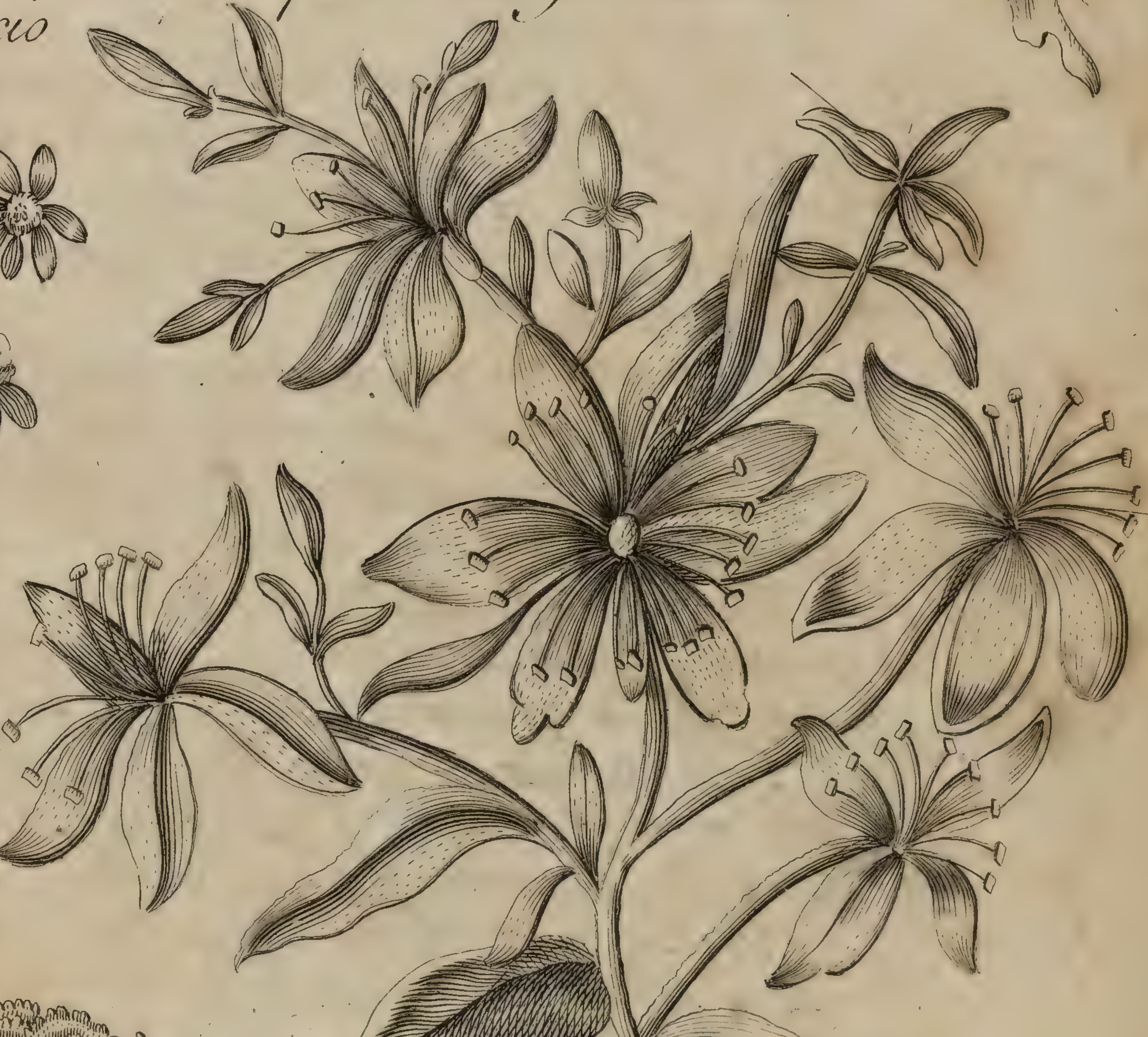
Double Starry Senecio



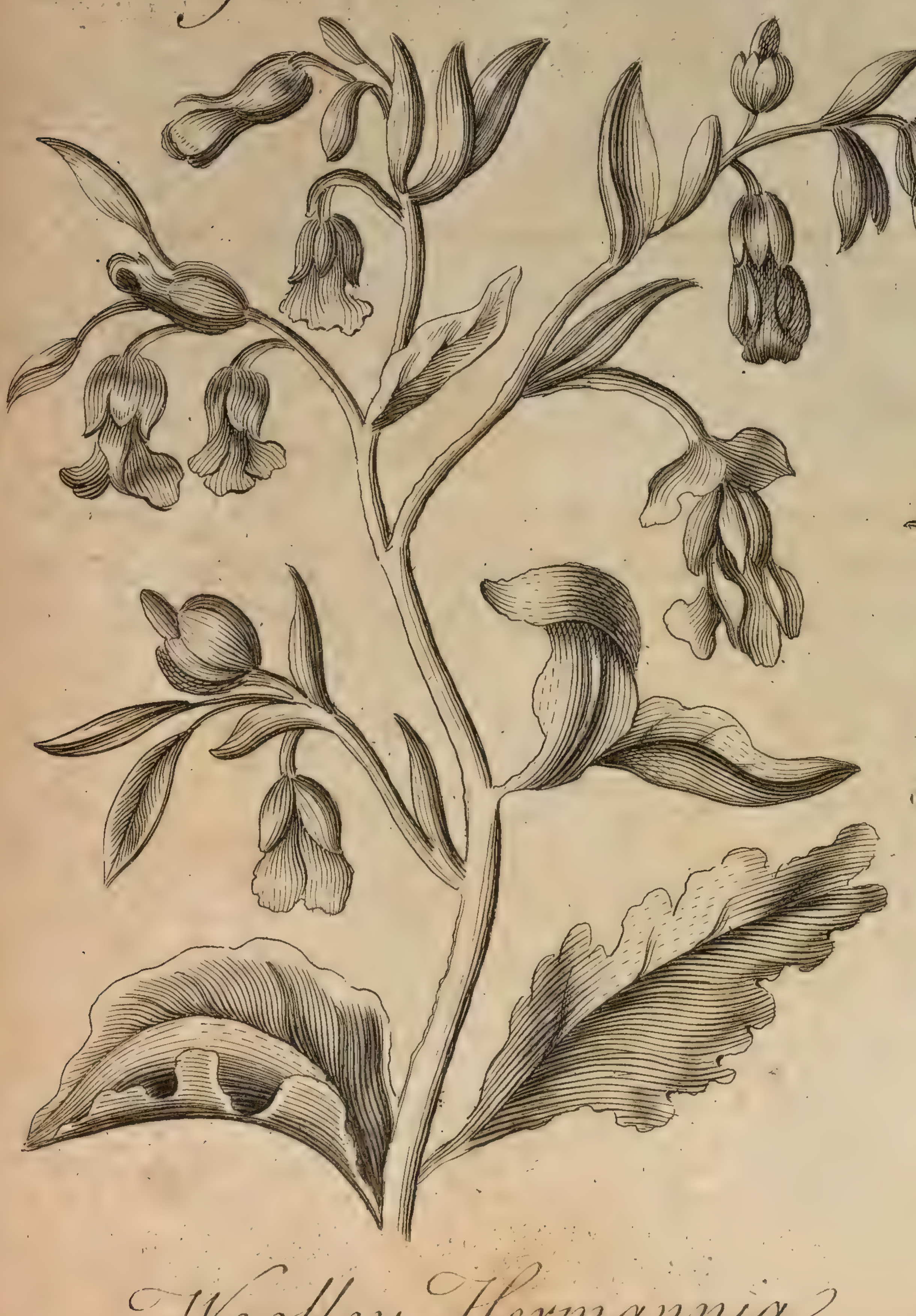
Purple Starry Senecio



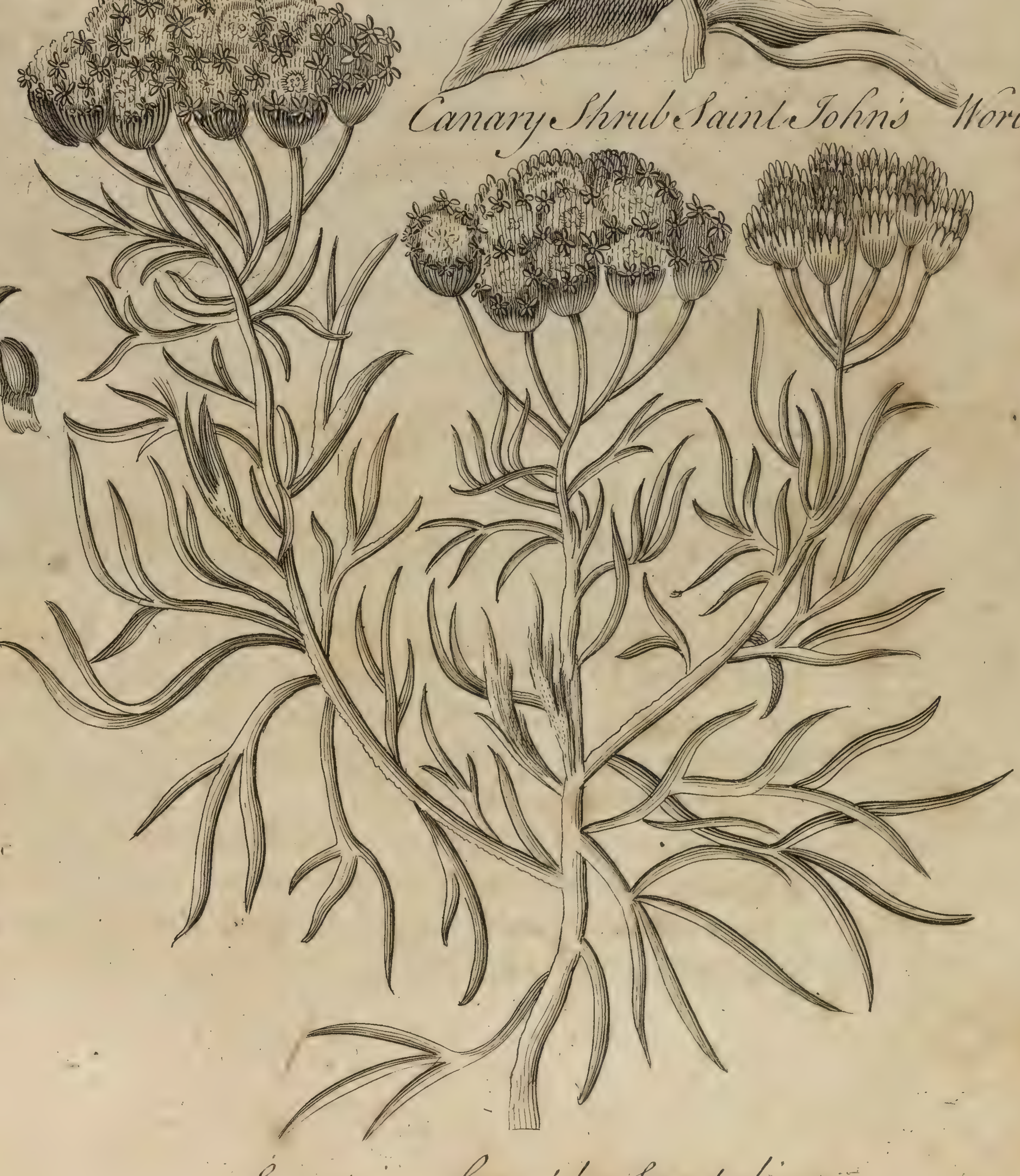
Long leav'd Othonna



Canary Shrub Saint John's Wort



Woolley Hermannia



Sampire leav'd Sautolina

Philips sculp.

of a pale brown.

The Branches are numerous, and the young Shoots are of a pale green, ting'd with red in ſome Parts, eſpecially at the Inſertions of the Leaves.

Theſe are ſmall and irregularly divided, principally at the Ends, into three Segments: They are of a pale, but agreeable green, and as they fade, often become rediſh.

The Flowers terminate all the Branches, in round ſimple Tufts: they are of a beautiful yellow, and of the compoſite, but not radiated Kind; ſeveral tubular Floſcules being arranged in a common Head, and a Number of theſe Heads each placed upon its ſeparate Foot-ſtalk, conſtituting the Cluſter.

Let the Student take this Opportunity of ſettling in his Mind the eſſential Diſtinction of the naked and radiated Flowers of the compoſite Kind.

Theſe ſeveral Floſcules which make one of the ſingle Heads, have their common Cup, and reſemble thoſe in the Diſk of the Senecio and Othonna, deſcribed in this Number, in all Reſpects, except that there wants the radiated Ornament.

'Tis therefore theſe are called naked compoſite Flowers, and thoſe radiated.

The Cup in which theſe ſtand is of a hemiſpheric Figure, and is compoſed of oblong, pointed, and convergent Scales, placed in great Numbers over one another.

The Body of the Flower, exceeds this in Length, and is compoſed of numerous Floſcules, equal and regular diſpoſed.

We have before informed the Student it is in theſe Floſcules ſingly he is to ſeek the Parts of Impregnation, and to learn the Claſs of the Plant: in this Species they are larger than in moſt others, and their Parts more diſtinct.

Let him ſeparate a ſingle Floſcule, and he will find it hollow, expanding to the Mouth, and there divided into five Segments, which turn back. Within the hollow, he will perceive five ſhort Filaments, whoſe Buttons are oblong, and coaleſce in a tubular Manner: this is the Mark of the ſyngeneſious Claſs.

The Seeds ripen under all the Flowers, and are winged with ſhort Down. They are placed upon a flatted Receptacle, covered with hollow chaffy Subſtances.

In this Plant, the Floſcules could ſingly perform the Office of ripening their Seeds, for each has all the neceſſary Organs: they mutually impregnate themſelves and one another: therefore the Section to which the Plant belongs, is that of the *Polygamia equalis.*

Culture of this SANTOLINA.

The Plant is a Native of *Africa*, but it is one of the hardier Kinds of that Climate, for it will live the greateſt Part of the Year with us in the open Air, and only requires to be ſheltered from Froſts in a Greenhouſe during Winter.

The Soil I have found agree beſt with it is common Paſture Ground, with about one fourth Part Pond-mud, and a little rotted Cowdung.

In this it may be raiſed from Seeds, but that Way is tedious. The Cuttings grow freely, and will with due Care make handſome Plants.

Let it be managed thus. In the Beginning of *May*, fill as many Pots with this Compoſt as you deſire to raiſe Plants. Set carefully in each of them one good Cutting from a thriving Shrub, and fixing the Earth well about it, give a gentle Watering.

Place theſe Pots in a Bark-bed, that has a very moderate Heat; ſhade them, and water them gently every Evening, till they have taken good Root. Then by Degrees inure them to the Air, by opening the Glaſſes.

In the Evening of a mild Day, take them out entirely; and ſet them among the hardy Exoticks in the open Air.

Here let them be watered occaſionally, and in *October* let them be removed in the Greenhouſe.

They muſt have Air as often as the Winter Days allow of opening the Glaſſes, and they will thus riſe to their full Perfection, and will continue flowering the greateſt Part of the Year.

Once a Year it will be proper to clear away the Surface of the Mould in the Pot; and ſupply it with freſh of the ſame Kind: and always in Winter, when the Plant is hous'd, the Care muſt be to give it as much Air as can be admitted; and very little Water.

CHAP. II.

The Management of the Flower-Garden, Greenhouſe and Stove.

THE Eye of the Floriſt is now upon his Auriculas, from which he expects a full Blaze of Glory in the Spring: let him prepare for it in Time: in Gardening, no great Advantage comes but at the Price of judicious Labour. They are at this Seaſon to be prepared for flowering well by freſh Earthing; and that done, they are to be preſerved from Froſt, and defended againſt great Rains, during the Remainder of the ſevere Seaſon; without choaking them for want of Air, which would draw them up weak, or keeping off all Wet, which would ſtarve them.

The common Writers know the Neceſſity of this, but they give imperfect Directions for doing it: indeed, if we examine their Pots with a Floriſt's Eye, we ſhall ſee their Practice agrees no better with Reaſon or true Knowledge, than their Writings.

They order Hoops and an Awning of Mats to be drawn occaſionally over the Beds: but for the Seaſon now coming this will by no Means anſwer the Purpoſe: if the Plants be too much covered, they will draw up weak and be of little Value; and in whatever Manner it is done, the Change is too violent from this Cloſeneſs to the open Air.

In the former Months of Winter, when the Plants are in a State of Reſt it may ſucceed, but now the Flower-head is form'd in their Centre, and is ready to puſh forward.

This unnatural Smothering, and violent Change from that to Openneſs, will be deſtructive of their Beauty.

We ſhall lay down a very different Method for the true Floriſt to obſerve; which, tho' new to the Publick, has been confirmed by many Years ſucceſsful Practice.

This Method, the Publick owes to the ingenious Mr. THOMAS BARNES, of *Elſham*, in *Lincolnſhire*; from whom we receive the Account, and to whoſe Correſpondence we hope to be farther indebted in the Courſe of this Work.

Mr. BARNES's *Method of managing* Auricula Plants.

Chuſe a Piece of Ground that lies high, and in a South, or from South-eaſt to South-weſt Aſpect. Strew over the Surface a good Quantity of Sand and Coal-Aſhes, and having raked them to a due and equal Thickneſs, in the Middle of *January* dig them in.

Break the whole very well, and theſe Materials thus mixing with the Mould, will make it a dry light Soil.

Prepare a Reed-hedge of the common Make, ſix Feet high, and ſuited to the Extent of the Ground.

Cut a Piece of broad Mat of the Length of the Hedge, and faſten it to the Top along one Edge.

Cut a Number of Pegs, fit to keep down the other Edge of the Mat when let to the Ground; and having by the End of the preſent Week laid all theſe Things ready, the Work will be eaſy.

Take the Opportunity of the firſt mild Weather that comes after this for dreſſing the Plants, and let it be done with great Care, remembring that the Bud of the Flower is already form'd in this Centre; and that if they be rudely diſturbed, it will do more harm, than all the good that can come from the Dreſſing.

Break and turn up ſome one of our Heaps of Compoſt, that has for its Baſis good Paſture Earth moderately enriched; and lay a Quantity of this ready for the Plants.

Then one by one take up the Pots. Pick off all decayed Leaves; and lightly ſtirring the Earth at the Surface, take it off as deep as you can, without hurting the Roots.

In the Place of this, put in ſome of the Compoſt, and carefully draw it up about the Plants. A great deal of Care muſt be taken that none of it gets among the Leaves; and then the higher it is drawn up about them the better.

One by one let all the Pots be managed in this Way; and when the whole are finiſhed, let them be ſet in Rows in the Bed of Earth prepared for them as juſt directed, as cloſe as the Pots can ſtand to one another.

They may be thus ſet the whole Length of the Ground, and to the Breadth of three Feet, for thus far they will be perfectly well protected from all Danger, by the Hedge placed as we are about to direct.

The Pots being in, and the Mould drawn up to their Rim, let the Hedge furniſhed with its Mat, be brought to the Place, and let it be fixed in the Ground to defend them: not upright, but ſloping three Feet and a half, or a little more.

When it is placed in the right Direction, let it be ſecured by ſeveral Stakes; and to theſe it may be ſo faſtened, that it will ſtand much more ſecure in the ſlanting Direction, than it would upright. We have named the Aſpect that is proper, and the Gardener will underſtand it is to hang to the ſouthward.

Thus let the Hedge ſtand in all common Weather with its Mat hanging back upon it, which ſerves as a double Defenee, thickening the Hedge.

In ſevere Weather, every Evening let the Mat be drawn over and hang perpendicular as it falls; faſten the Edge to the Ground, with the Pegs prepared for that Purpoſe, and in this Manner let it remain all Night, and if the Weather be very hard, for the firſt Hours of the Morning.

Afterwards it muſt be thrown back upon the Hedge, the Bed left open, and this Management continued as long as the Weather is ſevere: At all other Times the Hedge alone is a ſufficient Defence, and the Plants thus ſhoot at Leiſure, open to the Sun and Air, and yet defended from violent Rains, Snows, and the cold northern Blaſts.

While the Plants are thus defended from Cold and violent Rains, they muſt not be kept without Water.

In ſevere Froſts nothing muſt be done in this Matter; becauſe 'tis Water that gives the Froſt its worſt Power over Plants: but if the Weather be mild and open when they are dreſſed, as ſoon as they are in the Bed, let them have a gentle Watering;

tering; and after this, at Times, when there is no Danger of Hurt from it, let the Watering be repeated, giving it carefully to each, three Hours after Sun-riſe; and uſing a Pot with fine Holes, and Water from a ſhallow or well ſhelter'd Pond.

In this Way the Courſe of Nature will be kept on in the proper gradual Method: neither forc'd nor retarded. The Shoot for Bloom will riſe as the Seaſon calls it forward; and the Plants will ſhew the beſt Flowers of their ſeveral Kinds.

This Care being taken of the Auriculas, let the Gardener look carefully over his other Beds of Flowers. There are ſome we ſhall adviſe him yet to plant; and the others, according to their Degree of Growth, will require a various Management: for there is a great deal of Difference in Nature in the State of ſuch Plants as have not yet ſhewn their firſt Shoot above Ground, and ſuch as have.

We ſhall begin with what little we have to direct reſpecting Planting. It is a very advanced Seaſon, and ſome will exclaim at the Thought of putting Tulip Roots, at ſuch a Time, into the Ground: but let theſe recollect how much we have ſaid of it, and how often inculcated the providing for a Succeſſion.

We ſhall yet direct ſome Tulip-Roots to be ſet, which have been kept out of the Ground for that Purpoſe; becauſe this late Planting will make late Flowering; and there will be Spring Flowers in ſuch a Garden till the full Blow of Summer.

For theſe, let a high and dry Border be dug up, and let them be planted at the ſame Diſtance we have directed for thoſe in Autumn, but half an Inch deeper. Let the Earth be drawn carefully over their Tops; and upon the Bed let there be ſtrewn ſome Peaſe-ſtraw, driving in here and there a Peg, to keep it in its Place: this will keep them from Danger by Froſt; but there is yet another Article of Miſchief, from which they require Defence: this is Rain: and againſt this the Pea-ſtraw is little Protection.

The Roots thus planted in new dug Earth, kept ſoft by the ſtrawy Covering, will not fail to ſhoot and thrive if they continue tolerably dry; but if a cold Rain drenches the Ground juſt after, they would rot in the Places where they ſhould have grown. To prevent this, in all hard Showers let a Mat be drawn over the Bed; and this be conſtantly repeated as often as the Danger happens, till they are up.

With Reſpect to the Difference of thoſe ſeveral Beds which were planted in Autumn, we have nam'd the firſt Diſtinction, which is, that between ſuch as are up, and ſuch as do not yet appear above Ground.

The Defence of theſe latter is the eaſier; for there requires nothing but a Covering for the Surface of the Bed. It is the Faſhion at preſent to uſe Tan for this Purpoſe; a Cuſtom introduc'd from the Practice of thoſe Gardeners, who uſing a great deal of it in Stoves and Hot-Beds, do not know what to do with the Refuſe: but it is very wrong. Tan is too ſmall; it covers too cloſe, and heats upon the Bed, which was not intended.

I have found Pea-ſtraw better than any thing for this Purpoſe; and my Cuſtom has always been to throw a good Coat of it over the whole Ground, Beds and Alleys, treading it down in the Alleys, and taking Care that it lie even upon the Beds.

With Reſpect to thoſe which are up, they muſt not be thus cover'd, but Mats ſhould be drawn over the Hoops we have directed to be plac'd upon the Beds for that Purpoſe.

This is a very needful Practice; but in the improper Management of ſome Gardeners it has done more Harm than Good.

A great deal of Care is to be taken that the Plants are cover'd up no longer nor oftener than there is abſolute Neceſſity; and there requires great Attention and Diſcretion for the hardning them afterwards to the Air.

Thoſe which have not been ſhelter'd from the Colds of Winter, will bear very well the worſt Blaſts of Spring; but it is not ſo with ſuch as have been us'd to this Defence. It is a Practice that when once begun, muſt be continu'd, otherwiſe theſe Plants will ſuffer when others are not in Danger.

In the Management of unſkilful Gardeners, theſe Hoops and Mats have deſtroy'd more Plants than the Winter's Froſt. They either choak them up till they loſe the Principle of Life, and from the Warmth and Moiſture of the Air grow mouldy; or they keep them ſo warm in Winter, that if they eſcape the firſt Danger, they periſh by the natural Cold of Spring, to which they muſt of Neceſſity be expos'd, and which from their former nurſing they cannot bear.

SECT. II.

The Buſineſs of the SEMINARY, *for this Week.*

LET the Gardener go over his Beds which are intended for planting in Spring, and give the Earth its laſt Turning. Let this be done with great Care. Let all Clods be broke; and let the Whole be thrown up in a new Ridge, to receive the Influence of the Air, till the Time of levelling it for Planting.

Let him, for the laſt Time, look over his Trees, with a View to Pruning. If any Branch hang amiſs, that he did not obſerve before; if any be kill'd by the Froſt, or broke down by the Winds, let him uſe his Knife to them with Boldneſs and Diſcretion; taking off the one below where it is broke, and the others to the Quick Part. It is but little that will require to be done in this Way now, if he have follow'd our former Directions heedfully; and it is the laſt Opportunity he will have for doing it.

Let the Ground be dug up between ſuch as are well eſtabliſh'd in their Growth; and let all Roots of Perennial Plants be carefully picked out.

Let him examine his young Trees, to ſee whether they be crop'd or bark'd: and if any ſuch Miſchief appear, let him look well to his Fences. It is a Time when the ſmaller Kind of Animals are in the greateſt Diſtreſs for Food: and they will therefore be moſt apt to do Miſchief.

For the ſame Reaſon, while he repairs his Fences to keep out theſe Kinds, let him daily bait his Traps about the Seed-Beds; the Devourers he is to fear there are too ſmall to be kept out of the Ground; and no Way is left but to deſtroy them upon the Places.

We have every where recommended to the Gardener the raiſing his Flowers of the choicer Kinds from Seeds. It is by this Practice the *Dutch* and *French* ſo long excell'd us in that Article; and 'tis to the following of the ſame Method alone we muſt owe the equaling them for the future.

We have under our Directions for the Autumnal Weeks, deſcribed this at large; and ſhall only add here the common Caution of a Reſerve, in Caſe of Accidents.

We have directed ſowing Things of leſs Conſequence at different Times; and ſhall adviſe the careful Gardener now to repeat the ſowing of ſome Flowers whoſe Seeds will grow at this Period. If the others ſown in Autumn fail, theſe will yield a Supply that will be very favourable; and if thoſe ſucceed, ſtill there is nothing but Advantage in having a greater Number: and there generally is ſome Good attending theſe ſucceſſive Growths.

Two Kinds we ſhall particularly direct him to ſow this Week; theſe are the *Auricula* and *Polyanthous Primroſe:* their Seeds, we know from Experience, will grow at this Seaſon; and the Trouble, in the Way we are about to direct, is very little.

Let a Couple of Boxes be nail'd up, of rough Boards, five Inches deep, and a Yard long, and nearly as much in Breadth.

Fill theſe with ſome of the light and not over rich Compoſts; and ſtrew upon the Surface of one ſome Seeds of *Auricula*, and on the other ſome *Polyanthus* Seed. Sift a Quarter of an Inch of the ſame Compoſt over them, and then prepare the Place for their Reception.

Chuſe a high and dry Spot in the Nurſery, and cover the Ground half a Foot deep with Coal-aſhes. Set the Boxes upon this, and cover them lightly with Pea-ſtraw.

Lay more Pea-ſtraw all round them, and keep it in its Place with a few Bricks.

Thus the Boxes will be defended at the Sides, as well as covered at the Top; and in this Manner they may be left to Nature. The Mould will be mellow enough, and they will be ſhelter'd from the Rigour of the enſuing Seaſon.

In Spring the Pea-ſtraw may be remov'd, and there will be found many promiſing Plants. Theſe muſt be taken into the ſame Care with the others, from that Time, and they will produce as good Plants.

The whole Management of the *Polyanthus* we have given under that Head in our Fourteenth Number; and ſhall, in the ſame Manner, treat of the *Auricula* when we mention it at the Time of its flowering.

SECT. III.

POMONA, or the FRUIT-GARDEN.

IF the Buſineſs of Pruning have been properly manag'd in Autumn, there will not be much Work for the Gardener now among his Fruit-Trees. But Omiſſions may have happen'd, or the Garden may now firſt come into the Poſſeſſion of one who knows how to manage it better than thoſe before.

We ſhall therefore, in few Words, lay down what may be done now in this great Article; and what muſt, if hitherto not done, be now omitted longer.

The Peach, Nectarine, Apricot, and Plum Kinds, if not prun'd in Autumn, muſt be now let to remain in all their Rudeneſs till Spring: for the Wood of theſe Trees does not bear Wounds at this Seaſon.

All the Trees of the Kernel Kinds, Apple, Pear, and the like, may now be reduc'd to Order, according to the Rules we laid down in the preceding Doctrine of Pruning; and the ſmall Shrubs of Gooſeberry and Currant may be manag'd in the ſame Way without Danger.

We ſhall not load this Work with Repetitions; therefore refer, for the Method, to the preceding Directions.

But, on this Subject, it may not be amiſs to add, with Reſpect to thoſe Kinds which bear the Knife at this Time of the Year, that, beſide the pruning thoſe which have been neglected at a better Period, it will be proper to look over ſuch which have been regularly manag'd before.

The Accidents we have mention'd as poſſible to happen in the Nurſery Trees, may alſo take Place in theſe: ſome Branch may be decay'd ſince the Pruning; or the Wind may have broke one: in either of theſe Caſes, the damag'd or decay'd Part is to be retrench'd, or cut out entirely, according to the Degree of the Miſchief. And beſide this, it is proper to look over the Trees, at this Diſtance from the Time of Pruning, to ſee whether what was then done appears now ſufficient. A ſecond Thought is in no Caſe more uſeful than in the Affairs of Gardening; and in nothing more than Pruning.

In Regard to the Stone Fruit nail'd to Walls, there are regular Directions to be follow'd, which we have given in their Place; but in theſe, where leſs is to be done, in the common Method, more is left to Fancy.

Let the Gardener remember what we have directed in the taking off decay'd or ill growing Branches from theſe Trees before; that the wounded Part were left ſecure from Wet lodging upon it: the Caution is yet more needful now; for the Wet of Winter is worſe than that of any other Time.

The Saw is convenient for taking off large Boughs, but the Wound it leaves is ſo rough, that in whatever Poſition, ſome Wet will be detain'd upon it, therefore a Chiſſel ſhould always be us'd to ſmooth the Part afterwards, and the Stump left ſloping downwards.

The cautious Gardener muſt have his whole Year's Buſineſs in his Mind at every Period; and he will then be prepar'd for every Thing in its proper Seaſon.

It will be Time that he, this Week, think of the great Affair of Grafting; and if the Winter prove a mild one, it may be now proper for him to cut them from the early Kinds.

A great deal of Advantage is loſt in this Article, for Want of the Operator's entertaining a due Senſe of it in all its Parts. The Benefit that will riſe from the cutting the Grafts at a right Time, demands the moſt ſtrict Attention to find when that Time is. No ſettled Week can be allotted as the beſt, becauſe, according to the Severity or Mildneſs of the Weather, the Trees will be forwarder or backwarder; and the great Art is, to take them off before the Buds are too much ſwell'd.

When a proper Day is fix'd upon for cutting theſe, let a Piece of Ground be dug up for them, under a warm Wall; and immediately as they are cut, lay them in the Ground carefully, and ſcatter over them a little Pea-ſtraw.

Tho' this be the beſt Time, in ſuch Seaſons, for Cutting, it is not the Time for uſing them; and the Gardener's Care muſt be to keep them in Condition, till the due Seaſon for their Uſe. This will occaſion their being watch'd as carefully as the Beds of tender Plants; for if a ſevere Froſt ſet in, they require all the ſame Shelter and Management. More Straw is to be thrown over the firſt, as the Froſts grow more ſevere; but we by no Means approve of the Method of covering them with Mats; for it cannot be more eſſential to defend them againſt Froſt, than it is to let in ſome Air.

Theſe being prepar'd and ſecur'd from Injuries, let the Gardener look to his other Trees, that may have been overlook'd in the Hurry of Pruning; and alſo to thoſe which requiring that Operation but ſeldom, are ſometimes left altogether unregarded.

Of this Number is the Mulberry Tree. Few require leſs Pruning, or will leſs frequently admit of it without Injury: but the Gardener, in general, extends this Omiſſion to an abſolute Neglect.

The Mulberry naturally ſpreads its Branches at a ſmall Height; and this Diſpoſition of the Tree ſhould be indulg'd. It is convenient and agreeable to pull the Fruit without climbing; and there are other Advantages in this Method; for the Mulberries ripen more ſecurely upon theſe low than on the higher Branches. Scarce any Fruit holds ſo lightly to the Bough as this; when it approaches toward Ripeneſs: to this is owing the great Havock Winds make on thoſe which are moſt liable to their Fury. This covers the Ground with them as they grow fit for Uſe; but the low Boughs being ſhelter'd in ſome Meaſure by the Walls and other Growths, hold them better. It is the Courſe of Nature; and the wiſe Author of all Things ordain'd it for this Purpoſe, that the Branches of this Tree ſhould naturally ſpread horizontally near the Ground.

Therefore in the training a young Tree, let not the Gardener force it out of this Growth: let the Boughs ſpread at ſix or ſeven Foot from the Earth; and in young Trees let the Care be, that they riſe at ſuch Diſtances, and ſpread in ſuch Directions, that they do not croud together, nor croſs nor interfere with one another.

In Trees of long ſtanding the Rule of Cutting is the ſame; and the principal Buſineſs is to ſee that the Branches preſerve that proper Growth and Freedom intended firſt to be given them. If any rub againſt one another, let one of them be taken off; for it is better to loſe one than ſpoil both. When a large Bough has thus been taken away, a new one is to be encourag'd to ſupply its Place.

Let the Tree at the ſame Time be carefully look'd over, that there be no dead Wood or decay'd Branches left upon it. This is all the Cutting that is requir'd, and let the Gardener ſee he does no more.

The Boughs deſign'd to produce Bearers, muſt never be ſhortned, for they bear their Fruit upon the Branches of the ſame Year's Growth, proceeding from a few Buds near the Extremities of the laſt Year's Shoots. Therefore if the Ends of the Shoots, with the Buds, be taken off, no Fruit can follow there.

It is very eſſential to the Gardener to obſerve the Order of Nature in the bearing of different Trees; but it is not regarded ſufficiently.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

LITTLE is to be done this Week in the Kitchen-Ground, more than the Continuance of that Care we have directed to be taken of ſuch Crops as were in Danger from Froſt or Wet: let this be repeated duly; and let the Gardener never one Day omit to walk the Rounds, in Order to ſee what wants Defence, and what does not.

Let him dig up a warm Border of good Mould in ſome well ſhelter'd Place, and ſow upon it Lettuce-Seed of the common Kinds. Thoſe which are hardy will riſe and ſtand the Winter; and being kept clear of Weeds, they will come in at an agreeable Time.

Let him chuſe another Spot for ſome Peaſe and Beans; and ſow a ſmall Crop of each, to come in after thoſe we have already directed to be planted; or to ſupply their Place, if the Froſt have deſtroy'd them. This is the Advantage of Crops put into the Ground at ſhort Intervals: and without this there is no being ſecure of ſupplying the Table at all Times with all that can be in Seaſon, which is the great Praiſe of a good Gardener.

Let a Bed be prepar'd now alſo for Carrot-ſeed: to this Purpoſe, let a Piece of light Ground be choſen; and let it be dug two Spades Depth, and perfectly broken. Let the Seed be ſcattered thinly upon it, and rak'd in, and let a little looſe Peaſtraw be thrown over, to keep off the extreme Effects of the Froſts, which may naturally follow at this Time. It muſt not be thrown on ſo cloſe as to block up the Ground; for a free Air is as needful to Vegetation as any thing can be; neither muſt the young Plants be rais'd ſo tender as to fall by the next Froſts after the Straw is remov'd. Only a ſlight Scattering of it beſt anſwers the Purpoſe.

E D E N:

A

COMPLEAT BODY of GARDENING.

NUMBER XX.

For the Middle of *JANUARY.*

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

I. HURA.

Jan.

Plate XX. Fig. 1.

A Tree of extreme Singularity: native of *Mexico,* and other warm Parts of *America,* and celebrated by all late Writers. The Form of its Fruit has obtain'd it various Names.

The Vulgar, from its Shape, which ſeems as if elegantly wrought by Art, and from the Uſe ſometimes made of it to hold Sand for Writing, call it the *Sand-Box Tree:* ſome the *Jamaica* Walnut: not that it approaches in the leaſt to the Walnut Form; or is a Native of that Iſland; tho' now common in the Gardens there, from Seeds obtain'd from *Mexico.*

HERNANDEZ, from the violent Crack with which the Fruit burſts to Pieces, when dry, calls it *Arbor Crepitans:* others, *Warnelia,* and *Havelia*; but its moſt receiv'd and general Name is *Hura.* This LINNÆUS adopts; and as there is no other known Species, he adds no Epithet of Diſtinction.

The Tree, even without its Fruit or Flowers, is beautiful: for there is not a handſomer Leaf, nor one that hangs more elegantly.

It grows to twenty Foot, or more, in Height, with an upright and regular Trunk, ſpread toward the Top into many Branches. The Bark on the Trunk is tolerably ſmooth and brown; and the young Shoots are green.

Jan.

The Leaves grow in conſiderable Number toward the Tops of theſe, and they are plac'd in a drooping or hanging Poſture upon long Footſtalks. They are of a beautiful ſtrong green Colour, and of a very handſome Shape; oblong, broad, indented in a heart-like Manner at the Baſe for the Inſertion of the Stalk, and wav'd and ſinuated at the Edges. They decreaſe in Breadth from the Baſe, and terminate in a Point. The middle Rib, which is very conſpicuous on the Back of the Leaf, is of a whitiſh green. The whole is full of a milky Juice, as is alſo the Footſtalk, and the tender Part of the young Shoot. This flows plentifully on breaking them; and, as it dries, becomes browniſh.

The Flowers are of two Kinds, Male and Female, upon the ſame Plant.

The Male Flower is of an extremely ſimple Structure: it has only the Rudiment of a Cup, and has no Petals. The Filaments are numerous; they riſe from the Baſe of this little Cup, and are united in their lower Part into a cylindric Body: at their Tops they ſpread out in Form of numerous Branches, on each of which is plac'd an oblong Button.

The Female Flower has no Corolla, but is compos'd of a Cup, with the Rudiment of the Fruit and Parts of Impregnation.

The Cup is form'd of a ſingle Piece, and is hollow, of a cylindric Figure, furrow'd on the Outſide, and undivided at the Edge.

From the Rudiment of the Fruit contain'd within the Cup, riſes a ſingle and long Style, on which is plac'd a hollow Stigma, or Top, ſo large and conſpicuous, that TOURNEFORT conſider'd it as a Flower compos'd of one Petal. To this is owing his Deſcription of a Funnel-ſhap'd Flower to the *Hura*, which is copy'd, with his other Miſtakes, by the Author of the *Gardeners Dictionary.*

This great and hollow Top to the Style, is a ſingular Proviſion of Nature for the Impregnation of the Fruit; the Male Flowers being fewer in Number than in many other Trees in which they are diſtinct. Their Duſt is ſcattered, and this hollow Top of the Style catches it. It is ſpread out into a broad Rim, and divided by twelve obtuſe Segments.

The Male Flowers fallen, the Fruit ſwells under the Female; and, when ripen'd, is large, woody, and of a rounded but depreſs'd Form: wrought as it were with an Inſtrument, in twelve deep Furrows, which ſeparate ſo many diſtinct Cells. Theſe fly aſunder with a violent Crack when the Air is hot, and they are thoroughly ripe; and each contains a ſingle, compreſs'd, and ſomewhat rounded Seed.

The Student, initiated ſo far into the Science as we have brought him in the preceding Numbers, will know this Tree belongs to the *Monecious* Claſs, the Twenty-firſt in the LINNÆAN Syſtem, that Tribe comprehending all thoſe Plants whoſe Male and Female Flowers are ſeparate, but on the ſame Individual.

Under this Tribe the Marks which ſerve as Characters of the Claſs in others, can be us'd only as the Terms of a Sub-diſtinction. If there had been Female Parts in this Male Flower, and conſequently no diſtinct Female Flowers, the Tree would have been one of the *Monadelphous* Kind, becauſe the Filaments coaleſce at their Bottoms into one common Body.

This Mark, tho' ſubordinate to the general Arrangement of the Plant, which is taken from a ſuperior Mark, the ſeparate Male and Female Flowers, yet places it in a particular Sub-diviſion, the Ninth under this Claſs, the *Monoecia Monodelphia.*

The Fruit, which we have repreſented at large near the Branch of this Tree, in our Twentieth Plate, is prepar'd for a Sand-Box, by cutting it open where the Stalk is inſerted, and taking out the Seeds: after this, being ſet on the Bottom, it holds Sand, and ſeems a wooden Utenſil turn'd for this Purpoſe.

The Way to keep it from burſting, is to cover the Bottom with Sealing-Wax; but this is not ſecure.

I remember at the late Duke of *Richmond*'s to have ſeen one fly to Pieces, in Spite of this Security, as it lay on a Mantle-Piece in the Dining-Parlour, with a Crack like a Piſtol, ſcattering the ſeparated Parts about like Bullets.

This Fruit we were acquainted with in *Europe*, long before we knew any thing of the Tree which bears it.

CLUSIUS deſcrib'd and figur'd it; and from him, all, till HERNANDEZ, copy'd what they wrote of it.

HERNANDEZ's Deſcription of the Tree is imperfect, and his Figure faulty: he has agreed with CLUSIUS and others in attributing to the Fruit Virtues, which, upon better Authority, appear to be imaginary. They ſpeak of the Effects of it by Vomit and Stool, and mention two Seeds as a common Doſe: but Sir HANS SLOANE, whoſe Memory is too ſacred to admit Diſpute of his Veracity, ſays, he had himſelf eaten ſeveral of theſe Seeds, without the leaſt Effect of either Kind.

Culture of the HURA.

It is to be rais'd from Seeds, which are eaſily obtain'd, and grow freely. 'Tis beſt to have them from the *Spaniſh Weſt-Indies*, if an Opportunity ſhould offer of obtaining them freſh from that Part of the World: if otherwiſe, they may be had in Plenty from *Jamaica* and *Barbadoes*, where the Tree is cultivated by many People, and they will ſucceed very well.

For the Reception of theſe, fill two or three Pots with any of the light rich Compoſts which we have directed to lie in Readyneſs for other Occaſions.

In the Beginning of *March* ſow half a dozen Seeds, at regular Diſtances, in each Pot, and cover them half an Inch with the Compoſt.

Give the Pots a very ſlight Sprinkling of Water, and ſet them up to the Rim in a Bark-Bed of moderate Heat.

Draw Mats over the Glaſſes in cold Nights.

Once in five Days ſprinkle on the Earth in the Pots a very little Water; and in the Middle of every tolerable Day, raiſe the Glaſſes by a notch'd Stick, for about an Hour: in this Manner the Seeds will grow regularly. When the Plants are come up, the Glaſſes muſt be open'd more frequently, and kept up longer, obſerving the middle Conduct between ſtarving them with Cold, and drawing them up too tender.

Let them be water'd once in three Days; and when they are, by this Conduct, rais'd to ſome Height, and a little harden'd, let as many of them be tranſplanted as it is intended to keep.

Fill ſo many Pots with the ſame Compoſt, and take up one Plant for each. Leave in each of the original Pots one good Plant which ſtands near the Middle; for theſe not having the Check of a Removal, will be better than the others.

The reſt muſt be planted with great Care, and the Pots ſet up to the Rim in a Bark-Bed; and they muſt be there ſhaded and water'd till they have taken Root.

Here they muſt be nurs'd with the ſame Care we have directed, during Summer; and at the End of *September* they muſt be remov'd into the Bark-Stove, and kept in the warmeſt Part of it, watering them lightly in Winter; and in Summer giving

Jan. giving them Air when it can be ſafely admitted. They will thus make a great Progreſs and beautiful Figure; and with due Management, in Reſpect of Air and Water, will flower. Jan.

2. PINE-APPLE.

Plate XX. Fig. 2.

Speaking of Things commonly known, we give them, at the Head of the Account, their common Name; tho' we afterwards inform the Student of the more proper.

No Plant is more regarded, or deſerves it more than this. The Singularity of the Fruit would not fail to recommend it to the Curious, did not its delicious Taſte abſorb all other Merit; rendering it the Delight of our Tables; and therefore the firſt Article of Care among Exotic Plants.

We have not very long had Knowledge of it in *Europe*; and what we at firſt obtain'd concerning the Plant was very imperfect: this may be well conjectur'd from CASPAR BAUHINE's Name, which reduces it to the Rank of Thiſtle, he calls it *Carduus Braſilianus foliis Aloes*: the Aloe-leav'd *Braſilian* Thiſtle.

Since our better Knowledge, it has been univerſally call'd *Ananas* and *Nanas*. A Name tranſcrib'd by COMMELINE, and others, from ACOSTA.

Our common *Engliſh* Name Pine-Apple, has been given it from ſome exterior Reſemblance between the Fruit and the Cone of the Fir and Pine Kinds, call'd by the Vulgar Pine-Apples.

LINNÆUS entitles the Genus *Bromelia*; and adds, as the diſtinctive Character of this Species, *foliis ſpinoſis fructibus connatis caulem cingentibus*: Prickly-leav'd *Bromelia*, with Fruit cluſter'd together round the Stalk: And, in his lateſt Works, *Bromelia foliis ciliato ſpinoſis mucronatis ſpica comoſa*.

That this Author has connected other Species with the *Ananas* or Pine-Apple, under the Generical Name *Bromelia*, the Student will underſtand, by his adding ſo careful a diſtinctive Character; but let him beware that he does not take the Sugar-Loaf Pine-Apple, the prickly yellow of PLUMIER, and the naked ſhining green-leav'd Pine-Apple of DILLENIUS, as theſe Species, tho' Writers enumerate them as ſuch.

It ſeems PLUMIER has given Occaſion of Error in ſome of the Plants call'd *Bromelia*: but theſe which we have here nam'd are only Varieties, the Offſpring of Accident and Culture: nor are they the only Varieties we have from the ſame Source, or will there be any End of new ones.

All theſe however the judicious Botaniſt ſees as they are; as accidental Changes from the Wildneſs of Nature, under the Hands of Culture; and he will underſtand the Plant to be one and the ſame in its original Species, tho' they be multiply'd to a Number equalling the Tulips and Carnations of our Floriſts.

The Plant is robuſt, and two Foot and a half high.

The Root is thick, and ſends out many ſcattered Fibres.

The Leaves are long and narrow, ſharp-pointed, and of a pale green, with a Tinge of blueiſh. So much is certain; and we may add, that there ſtand naturally many weak Prickles at their Edges; but in this Reſpect the Plant varies from Culture, as much as in the Shape and Bigneſs of the Fruit.

In the Centre of the Cluſter of Leaves riſes the Stalk, round, thick, robuſt, and of a pale green; with two or three little Leaves upon it. On its Top is plac'd an oval pyramidal fleſhy Subſtance, form'd of many cluſter'd Tubercles, ſupporting the Flowers; and after them the Seeds.

This, at its firſt Appearance, is green, and, in one of the Varieties from Culture, continues ſo when ripe; at which Time, in ſome of theſe Varieties, it is oval, in others roundiſh, and in others pointed: in ſome the Fleſh is white, in others yellow.

Whatever be its Colour and Form, the Species is originally the ſame: the Flowers and Seeds ripen upon it without Variation: and on its Summit ſtands a Crown of cluſter'd Leaves. Nothing can exceed the Singularity of its Aſpect; nothing its Fragrance, when ripe, except the Taſte.

The Flowers appear ſingly; one on each Tubercle of the general Fruit: their Colour is a blueiſh purple, and the Buttons upon their Filaments are gold yellow. The Seeds are oblong, numerous, incumbent, and obtuſe.

To know the Claſs to which the Plant belongs, one of theſe Flowers is to be examined. It will be found plac'd in a ſmall Cup, which reſts upon the Rudiment, and is of a three-corner'd Shape, and divided at the Top into three oval Segments.

The Body of the Flower is compos'd of three Petals, which are of an oblong Figure, lanceolated, and longer than the Segments of the Cup. Theſe ſtand erect; and there is plac'd among them a Nectarium of three Parts, inſerted a little above the Baſe of the Petals, with convergent Points.

In the Midſt of this Flower ſtand ſix ſhort Filaments; each crown'd with its Button, of an Arrow-headed Shape; and in the Midſt of theſe a ſingle Style.

As theſe Parts fade when they have perform'd their Office, the Seeds ripen, and the Body of the Fruit ſwells, and obtains, by Degrees, its full Maturity.

The young Botaniſt counting the Number of theſe Filaments in the Flower, will be at no Loſs to underſtand the Claſs to which the Plant belongs. It is one of the *Hexandria*; and the ſingle Style ſhews it alſo to be one of the *Monogynia*; the firſt Section under that Claſs.

Culture of the PINE-APPLE.

The Superiority of this Fruit over all others, in Taſte and Excellence, has made it the great Article of polite Gardening. We ſhall deliver its Culture not from the irregular Directions of others; who, while they affect to diſcloſe, apparently wiſh to conceal the Art for their private Advantage; but from Experience.

It is a Native of *Surinam*, of the hotteſt Countries of *South America*, and of ſome inland Parts of *Africa*. There it perfumes the Air for Miles; and murthers many of the Natives by Surfeits.

From theſe Places the Knowledge of the Plant came into *Europe*; and its Culture from the *Spaniſh Weſt-Indies* to our hotteſt *American* Iſlands. The *Dutch* firſt rais'd it in this Part of the World; and the Art being once found out by them, ſoon ſpread itſelf into *France* and *England*. At preſent we raiſe them equal to thoſe of the *Dutch*; and we ſhall endeavour here to lay the Method down familiarly.

The Varieties we have nam'd have been produc'd from Seeds; and thoſe who will take the Pains to raiſe Plants in that Method will have many more: but the ready Way is from the Crowns and Suckers.

The oval-fruited Pine-Apple was firſt known in *England*, as it was the Kind originally rais'd in *Holland*; but the Sugar-Loaf Kind is preferable, for many Reaſons; and is the Kind we ſhall recommend to all who are about to begin a Pinery.

The Fruit in this uſually is larger, and the Juice of a finer Flavour: and there is the great Advantage of its producing Suckers from the Stalk, toward the Top, which in the oval are much leſs common.

From theſe Suckers, the Crowns, and thoſe from the Sides of the Plant, the Pine-Apple is to be rais'd.

In order to the cultivating theſe, the firſt Requiſites are two: a Bark-Bed covered with a Frame and Glaſſes; and a Stove with its Bark-Pit. The firſt ſerves to raiſe the Suckers and Crowns to a Condition of bearing Fruit; and the ſecond is for bringing their Fruit to Perfection.

Theſe are to be conſtructed in the following Manner:

Let the Frame over the Bark-Pit be built with Brick-work, and have Flues to warm the Air in Winter. Let its Length and Breadth be according to the Quantity of Plants intended to be rais'd, and the Bigneſs of the Stove to be ſupply'd from it: but let the Depth be ſo much, that the Glaſs Covering may be three Inches above the Height of the talleſt Plants that need be kept in it; and the Whole built firm and ſound.

Every Bricklayer knows now how to conſtruct the Brick-work, and carry the Flues: we ſhall not inſtruct him in his Buſineſs, but refer him to ſome one that is already conſtructed, and ſucceeds well, if he be diffident: he will there receive certain Information, much better than can be convey'd by Figures: but to the Gardener we have a very eſſential Point to explain.

Let him order the Bed to be ſomething larger than the common Cuſtom, in Proportion to the Quantity of the Plants; for however little he may be aware of it; or however little the preſent Practice ſeems ſenſible of it, the giving the Plants Room in their Infant-Bed, is the original Principle on which the Largeneſs of the Fruit depends.

The Stove ſhould be built with Glaſſes, a Yard and half high in Front; and it ſhould be two Yards high at the Back. From the Top behind, to the Top of the Front Glaſſes, ſhould be carry'd a Covering of Glaſs, ſloping: and within is to be the Tan-Bed.

The Brick-work is a material Article, and we refer the Operator for the Conſtruction of this, and the Diſpoſition of the Flues, to the Example of ſuch as he finds ſucceed.

With Reſpect of the Bigneſs, it muſt be ſuited to the Quantity of Plants intended to be rais'd. A Tan-Pit of thirty Foot long, and ſeven broad, will conveniently hold a hundred: and the Glaſs and Brick-work muſt be contrived to ſurround and cover it.

The Stove and Frame being thus ſuited to one another, and in Readineſs; the Compoſt for the Plant is next to be conſidered. There have been various Kinds employ'd, but the beſt is this:

Mix together one Load of rich light Mould, from under the Turf in a Paſture, half a Load of River-Mud, half a Load of rotted Dung from an old Melon-Bed, and two Buſhels of fine Pit-Sand, with the ſame Quantity of old Cow-dung.

Let theſe be very well united by ſtirring; and then thrown up in a Ridge, to receive the Influences of the Air.

When the Brick-work is dry and harden'd, and the Mould and other Ingredients, in this Compoſt, are well blended, and enrich'd by frequent turning to the Air with a new Surface, all will be ready for beginning the Plantation.

This is to be made with the Crowns taken from the ripe Fruit, with the Suckers from Plants in our own Stoves, or from Plants brought from *America*.

The latter Method is uncertain, and there is a plain Objection againſt it, which there is no Security of having a good Kind.

The Sugar-loaf Sort whoſe Leaves are ſtreaked on the Inſide with Purple, or the Montſerrat Kind, whoſe Leaves are entirely purple or brown within, are to be prefered to all others.

The Crowns of theſe, when cut in *England*, are always ready; and as ſoon as the Fruit is cut; Proviſion ſhould be made for Suckers, by cutting the Leaves of the Plant, taking off the Earth from the Surface, putting in freſh from the Bed of Compoſt, and ſeting the Pot up to the Rim in a good Hot-Bed.

Here it is to be watered every Evening with Water that has ſtood in the Stove; and Vegetation being thus promoted, when the Stalk is cut away, the Effort of Nature will all be upon the making Shoots of Suckers, which will ſerve for the new Plantation.

If the Plants be procured from *America*, let them be ſoaked in a ſtrong Decoction of Wood Soot and Tobacco, to deſtroy the Inſects, with which they commonly are loaded, and which will deſtroy them, and ſpread over every thing elſe in the Stove, if not killed at firſt in this Manner.

If the Plantation be made in the more uſual Way from Crowns and Suckers of our own Produce, there requires a great deal of Care, tho' of another Kind.

Let the Crown be taken off from the Fruit very gently; and the Suckers drawn away with ſuch Caution, as not to break the Membrane that naturally ſurrounds them.

Let the lower Leaves be taken off, and let both be laid upon a Shelf in a warm Room, till the Bottoms are dry and hardened: for if planted while wet, they will rot.

Let the Gardener take this practical Caution, that the Suckers if carefully drawn off, will be fit for planting much ſooner than the Crowns.

In general, three, four, or five Days lying will do in Summer; but in Winter, they take ten Days, and will not dry well any where but in the Stove.

When the Bottoms are firm and fit for planting, let the Gardener put ſome of his Compoſt into as many ſmall Pots as he has Crowns and Suckers.

Let him carefully plant one in each Pot; and pouring in more Compoſt, fix it well; and when all are thus planted, let them be ſet in the Bark-bed: obſerving that the Bark is of a moderate Degree of Heat, and ſetting the Pots in the Bark up to the Rim, and at a ſmall Diſtance.

Here they are to be kept during the Summer, without any farther Heat, than that of the Bark: and in Winter, with the Help of a gentle Warmth. They muſt be watered gently every fourth Day in Summer, and every ſixth in Winter.

In the *April* following they will be fit for putting into larger Pots, which muſt be done with great Care; ſhaking out the Plant with its Ball of Earth entire, and filling up with more of the Compoſt.

After this they are to be kept in the ſame Manner till the End of *July*, and then removed once more into larger Pots.

Theſe ſhould not be too large, for ſuch crowd the Bed, and rather injure than help the Plants.

At each Time of ſhifting, the Bark-bed muſt be ſtirred up; and ſome freſh Bark added.

The Plants muſt then be ſet in again, and gently watered; and after this preſerved in every Reſpect as at firſt.

When they ſhew their Fruit, the Gardener muſt obſerve to remove them no more out of their Pots; for this can never be done without giving them a Check, and if they receive any when they are ſet for Fruit, it will render that Fruit ſmall and ill taſted.

The Plants ſhould only be taken out of the Tan-bed to the Stove, when they are in a Condition of bearing: and in this Manner the Stove will always at the proper Fruit Seaſon, which is from *June* to the Beginning of *October*, make a very glorious Figure, the Whole being fruiting Plants.

As the Fruit are cut, the Pots are to be removed and managed for the producing of Suckers, as already directed, in the Bark-bed; of which nothing need be done or ſeen in the Stove.

This is the beſt Way of managing the Plants; and notwithſtanding the ſecond Fire that is neceſſary in Winter for the Bark-bed, it is in the End the cheapeſt.

For thoſe who chuſe to do otherwiſe, the Bark-bed may be made in the common Way, without any Convenience for firing. In that Caſe, the Plants muſt be removed into the Stove at the Approach of Winter, and taken out again in Spring.

The Time of planting depends upon ripening of the Fruit, from which the Crown is taken, or from whoſe Root after cutting, the Suckers are raiſed; ſo that no Week or Month can be allotted, but they muſt be taken when ready.

In this ſhort Compaſs is comprized the whole Management of the Pine Apple, from taking off the Crown, to its producing the ſucceeding Fruit: and to this we ſhall only add for the Sake of ſuch as are leſs experienced in theſe Things, a few practical Cautions.

At the Times of planting and removing them into larger Pots, let there be always a few Stones put in the Pot over the Hole for the Diſcharge of Water, that it may always keep open: for if it ſhould fill up, and the Wet be detained, it would certainly rot the Plant.

What the Gardeners underſtand by a three farthing Pot is the full Bigneſs for planting the Suckers and Crowns at firſt; and for many of them a halfpenny Pot will do.

The firſt Removal ſhould be into penny Pots, or three-halfpenny Ones according to their Size; and the laſt into two penny Pots; theſe being the fitteſt Size for the fruiting Plants.

The two Dangers to which theſe Plants are expoſed, while the due Degree of Heat is allowed them, is to be deſtroyed by Inſects, or choaked for Want of Air.

The Inſects are to be waſhed off with a Spunge, dipped in a Decoction of Wood-ſoot and Tobacco. And the other Accident is to be prevented, by raiſing the Glaſſes in the Middle of the Day with a notched Stick.

The Degree of Heat when Fires are employed is perfectly to be regulated by the Thermometers made for that Purpoſe, and mark'd with the Name of the Plant at the due Degree. It is impoſſible to keep the Heat always to this exact Line; but if the Gardener take Care never to let it riſe above four or five Degrees higher, or fall four or five Degrees lower than that Mark, he will never hurt his Plants.

3. GOLDEN ARCTOTIS.

Plate XX. Fig. 3. The wild Irregularity of Growth in this Plant is not its leaſt Recommendation; but it has beſide, Leaves of an agreeable Form and Colour, and Flowers far from inconſpicuous.

The late Writers in this Science all knew it, but they have called it ſome by improper, and others by ſtrange uncouth Names.

Vaillant has named it an *Arctotheca*; Boerhaave and Commeline, an *Anemoſpermos*; and Petiver a *Jacobæa.* Linnæus joining with Boerhaave and Vaillant in ſeparating it from all other Genera, names it *Arctotis*, as do Vanroyen, and the reſt of the more modern Writers.

The Plant is variouſly branched, and diſperſes its Ramifications and Leaves in a pleaſing Wildneſs.

The Root is long, thick, and yellow, and is hung with many white Fibres.

The Stalk is round, thick, tender, and ſpungy. Its general Colour is a duſky green, but it has Spots of white, and toward the Inſertions of the Branches, is often ting'd with purple.

The Leaves are large, oblong, and jagged, and ſinuated with a ragged Freedom: their Colour is a deep and duſky green, but the middle Rib toward the Stalk is often red: at the Tops of all the Branches ſtand the Flowers one at the Extremity of each.

Theſe are large, of a radiated Form, and they are pleaſingly variegated in Colour; the Diſk in the Centre is of a ſtrong gold yellow, the Rays are of a paler yellow, but ſtill with a golden Tinge, and very agreeable; and on the Outſide they have ſome yellow, eſpecially toward the Edges; but the general Colour is a beautiful deep Crimſon: the Seeds are hairy, and ſtand after the Flower is fallen, in a kind of Button.

Theſe Herman thought reſembled the Heads of Seeds of the *Anemone.* He thence called the Plant *Anemonæ Affinis*, and thoſe who followed him for the ſame Reaſon, *Anemonoſpermos.*

The Propriety of a new Name will be very evident from this, and the Addition by which Linnæus has diſtinguiſhed the Species as correct: he calls it *Arctotis foliis pinnato-ſinuatis laciniis oblongis dentatis.* Arctotis with pinnato-ſinuated Leaves and oblong dentated Segments.

The Flower when examined by the Eye of Science, does not want its Singularity.

The Cup in which it ſtands, is of a roundiſh Form, and imbricated Structure: the Scales of which it is compoſed, are of three Kinds, diſpoſed in three diſtinct Aſſortments.

The lower Range are looſe, and grow ſmaller to a Point at the Top, thoſe of the upper Range are oblong, and have a rounded, hollow, ſhining End, and the middle Ranges are oval.

The Flower placed in this, like others of the radiated compoſite Kinds, is form'd of two Sorts of Floſcules. In the Diſk are numerous tubular ones, and the Verge about twenty of the ligulated Kind.

In the tubular Floſcules are placed five Filaments with oblong Buttons, uniting into a Cylinder, and terminated by five Dents; and among theſe a ſingle Style. Theſe tubular Floſcules widen to the Top, where they are divided into five Segments which turn back.

The ligulated Flowers have a very ſhort tubular Baſe, and their flat Body is long, and lightly nicked in three Parts at the Extremity.

In theſe there are no Filaments, but there ſtands very conſpicuous a hairy Rudiment of a Seed. This is of an oval Form, but marked with four Ridges, and crowned with a leafy Cup, the Scales very ſmall, but three of them which ſtand outward, are larger than the others, and incumbent; the others minute and diſtant.

From this Rudiment riſes a ſingle and very fine Style, crowned with two thick, upright Tops, or Stigmata, of an oblong and ſomewhat oval Form.

The tubular Floſcules produce no Seeds, but after theſe ligulated Ones come ſingle Seeds, which are round, hairy, and ſtand in a Cluſter, crowned with the oval Leaves of the Cup.

They might well perceive this Plant differed from thoſe of all the before named Genera, who firſt diſcovered it; and our Student will by this Deſcription of the Parts, readily ſee to what Claſs it belongs in the Linnæan Syſtem.

The Coaleſcence of the Buttons on the Filaments, refers it to the ſyngeneſious Tribe; and the Floſcules in the Diſk producing no Seeds, the various Impregnation from their Buttons in the ligulated Flowers of the Rim, ſhews it to be one of the *Polygamia neceſſaria.*

Culture of the Golden Arctotis.

The Plant may be raiſed from Seeds; but the beſt Method is by Cuttings. Theſe take Root very freely, and ſoon grow into handſome Plants.

The Gardener is to obſerve, that he does not let them make any Shoots too low, for they will be troubleſome to ſupport; but for all the reſt, he ſhould ſuffer them to ſpread in their natural Wildneſs: and it will be beſt to raiſe Plants in this Manner very frequently, to ſupply the Place of the old ones, which are more ſubject to decay, and at beſt have leſs Beauty: the Leaves being fewer, and thoſe as well as every other Part leſs lively.

In the latter End of *May*, let a Border of rich Mould be well dug and broke; and in this, let the Gardener plant as many handſome Cuttings as he deſires to raiſe.

Let them be taken from thriving, healthy Plants, and ſet at eight Inches diſtance.

When they are in the Ground, let them have gentle Watering; and let this be repeated every Evening.

In the Middle of the Day, let them be ſhaded by a Mat, or a ſloping Reed-hedge; and let the Ground be kept clear from Weeds between them. By *Midſummer* they will be well rooted.

Let them be then carefully taken up, and planted in ſeparate Pots of common Garden Mould.

Let theſe be placed in a ſhady Part of the Nurſery, till they are well rooted in the Pots, after which, let them be brought into the open Part of the Garden, where the hardy Exoticks are kept, and in the End of *October*, remove them into the Greenhouſe.

Here they are to be treated as the other Plants, allowing them Plenty of Water at convenient Times; and as much Air as can ſafely be admitted into the Place. They will thus flower with great Profuſion all the Year.

4. ALATED VERBESINA.

Plate XX. Fig. 4. The Singularity of this Plant, and its beautiful Manner of growing, claim a Place for it in every good Collection, tho' the Flowers are leſs conſpicuous than in many other Kinds.

Moſt of the late Writers have deſcribed it but under various generical Names. PLUKENET calls it *Chryſanthemum bidens alatum.*—MAGNOL, *Cannabina Indica foliis integris.*

LINNÆUS who firſt properly eſtabliſhed the Genera of the compoſite flowered Plants, refers this to the *Verbeſina.* The Characters ſhew the Propriety and ſtrict Juſtice of this; but the Plant ſo perfectly differs in its general Form and Aſpect from all the other Verbeſinæ, that one cannot wonder, others in general did not refer it to them.

LINNÆUS adds, as a Diſtinction of the Species, *foliis alternis decurrentibus undulatis obtuſis.* Verbeſina with undulated and obtuſe Leaves, placed alternately, and running down the Stalk.

The Plant is ſmall, rarely exceeding a Foot and a half in height, and more frequently much lower.

The Root is fibrous and white: the Stalk is round, upright, firm, divided into many riſing Branches. Toward the Bottom it is of a fine purple, which dyes into a whitiſh green upwards.

The Leaves are very beautiful, their Colour is a fine ſtrong green; their Shape oblong with a conſiderable Breadth; and they are waved along the Edges, and terminate in a blunt Point. They adhere to the Stalk by their proper Baſe, and thence are continued down upon it in a Kind of undulated Wings.

The Flowers terminate all the Branches; one general Head on each; this is of a globular Form, and of a fine Orange yellow.

The Flowers are placed in a hollow, ſcaly Cup, the Scales of which are oblong, hollow, and upright, and pointed. The Body of the Flower appears at firſt Sight, of the compoſite naked Kind, but it is truly radiated.

In the Centre are placed a great Number of tubular Floſcules, divided into five Segments at the Edge, and in theſe are five Filaments with coaleſcent Buttons.

At the Edge are a ſingle Row of ligulated Floſcules or Rays; theſe are ſo ſhort, that they are confounded on a ſlight View with the others; but they are not tubular and quinquedentated as thoſe; but flat, and nicked in three Places at the Edge.

In theſe there is only the Rudiment of the Seed with its Style; in the others there are the ſame Rudiment and Style, as well as the Filaments.

The Seeds are thick and angulated; they ſtand in a Head, under the Defence of the common Cup; and, when perfect, have a chaffy Crown, with three Points.

The Student will ſee, by this Deſcription, that the Plant is one of the *Syngeneſia*; and when he has obſerved that the tubular as well as ligulated Floſcules ripen their Seeds, he will find that the Diviſion to which it belongs, is that of the *Polygamia Superflua.*

Culture of the ALATED VERBESINA.

The Plant is a Native of *Curaſſo*, *Surinam*, and other warm Parts of the World, and lives there moſt freely in a moiſt rich Soil. This indicates its Culture, which is very eaſy.

The firſt Plants ſeen of it in *Europe*, were rais'd from Seeds brought from that Part of the World. Seeds may ſtill be obtain'd from thence, or the Plant may be rais'd from ſuch as are ripen'd here.

In the Beginning of *March* fill a Pot with rich Garden-Mould: ſcatter the Seeds over this, and ſift upon them a Quarter of an Inch of the ſame Mould. Set the Pot up to the Rim in a Bark-Bed of moderate Heat; and once in two Days gently ſprinkle upon the Pots a little Water.

When the Plants riſe, thin them where they are too cloſe, allow them more Water and a little Air; and when they are four Inches high, tranſplant them into ſeparate Pots.

Let theſe be fill'd with rich Meadow-Earth without any Mixture, and ſet them up to the Rim in the Bark-Bed again.

When they have been well water'd and ſhaded, and have fully recover'd the Shock of their Removal, admit more Air, and at length ſet them out among the Greenhouſe Plants: after this they are to be treated as the reſt, and will flower in great Perfection.

5. CANARY BROOM.

Plate XX. Fig. 5.

This is a Shrub whoſe vaſt Profuſion of Flowers, with their elegant Colour, recommend it ſtrongly to the Curious. Many of the late Writers have nam'd it, but few under the proper Title.

Plukenet and Seba follow Clusius and C. Bauhine, in calling it a *Cytiſus*; but the more accurate Generical Characters ſince eſtabliſh'd, have taught Van Royen and Linnæus to name it a *Geniſta:* they add, as its ſpecific Diſtinction, *foliis ternatis:* Ternate-leav'd Broom.

Our Gardeners, who have been us'd to call it *Canary Cytiſus,* will hence learn to ſpeak of it under the Name of *Canary Broom.*

It is a Shrub of wild irregular Growth, and naturally full of Branches. Its common Height is five or ſix Feet, and it may be train'd up higher on Occaſion: but the Beauty of its Growth is never ſo well ſeen as at about four Foot and a half.

The Root is woody, divided, and hung with many Fibres.

The Stem is round, not very robuſt, and covered with a brown Bark.

The young Branches are pale, and the whole Plant is thick covered with Leaves. Theſe are ſmall and hoary, and they ſtand three on a Footſtalk. Their Colour is a greyiſh green.

The Flowers cover the Tops of all the Branches in long Series, after the Manner of looſe Spikes, with intermingled Leaves. They are large, of the *papilionaceous* Form, and in Colour of a beautiful yellow. Sometimes this is very pale; ſometimes it is deeper, and has a Tinge of Orange; and ſometimes it is variegated with white. The Pods which follow theſe are flat and hairy.

The Cup which holds the Bottom of the Flower is ſmall, form'd of a ſingle Piece, hollow, and divided into two rude Lips. The upper one is ſplit into two Parts, and the under one more lightly into three, which are all equal.

The Flower itſelf has four Petals, diſpos'd in the *papilionaceous* Form. The Vexillum is oval, and pointed, plac'd remote from the Carina, and thrown back entire. The Alæ are oblong, but ſhorter than the other Petals. The Carina is ſtrait, very long, and nick'd at the End.

The Filaments are ten, and they unite at the Baſe; and the Style is ſingle.

Linnæus places this Genus among the reſt of the *papilionaceous* Kind, under the Claſs of *Diadelphia*; but the Filaments do not exactly anſwer the Character of that Claſs, or the Term which he has us'd to expreſs it. This we had Occaſion to obſerve alſo on a preceding Occaſion.

Culture of the Canary Broom.

It is a Native of the *Canaries,* and of ſome of the warmer Parts of *Europe,* and thrives beſt in a light Soil that is not too rich.

It will grow very well from Layers; but the handſomeſt Shrubs are to be rais'd from Seed, and this requires little Trouble.

Let ſome well ripen'd Seeds be ſav'd in Autumn; and the following Spring ſown on a moderate Hot-Bed.

When they are come up let them be thin'd a little; and when, with careful Waterings, they have riſen to three Inches in Height, let them be ſeparately planted into Pots of freſh Paſture-Earth.

Let theſe be ſet up to the Rim in a Bark-Bed, where the Heat is but moderate, and carefully water'd; covering the Glaſſes with Mats againſt the full Power of the Sun.

By Degrees let them be harden'd; and toward the End of *July* bring them out into the open Air. In *October* remove them into the Greenhouſe; and throughout the Winter let them have a good deal of Water, and as much Air as can be admitted.

When they have conſiderably encreas'd in Size, they muſt be ſhifted into larger Pots; and being ſet out in Summer, and hous'd in Winter, they will be cover'd with Flowers moſt Part of the Year.

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6. RIGID SHRUB SENECIO.

Plate XX. Fig. 6.

This wants the gaudy Aſpect of many of the Greenhouſe Plants; but there is ſomething in its robuſt Growth and ſturdy Aſpect that very well may demand a Place in our Collections.

Many of the late Authors have nam'd it; but in their Writings, as in the Mouths of our Gardeners, it is call'd by a wrong Generical Title: they make it a *Jacobæa*; ſo Commeline and Ray entitle it: but Linnæus, who has correctly eſtabliſh'd the Diſtinctions among the Compoſite flower'd Plants, makes it a *Senecio*: he adds, as the Diſtinction of the Species, *corollis radiantibus foliis cordato oblongis amplexantibus ſcabris acuminatis ſerratis, caule fruticoſo:* Radiate-flower'd Shrub *Senecio,* with rough, ſerrated, pointed, oblong Leaves, heart-ſhap'd at the Baſe, and ſurrounding the Stalk.

The Root is woody, and full of Fibres.

The Plant is ſeven Foot high.

The Stalk is ridg'd, and cover'd with a brown Bark; and has a greyiſh Hairyneſs.

The Leaves are oblong and irregularly indented. They ſurround the Stalk at the Baſe, and terminate in a Point, which is a little rounded. They

are

Pl: 20.

1
Hura
2
Pine Apple
3
Golden Arctotis
4
Alated Verbesina
5
Canary Broom
6
Rigid Shrub Senecio
J. Hill delin. et sculp.

are of a fine bright green on the upper Side, but on the under they are whitiſh and hoary. Their Subſtance is firm, and the Middle Rib is whitiſh.

The Flowers are ſmall, but their Number atones for their defective Size; they crowd the Tops of the Branches in vaſt Cluſters, and their Colour is a fine gold yellow. The Seeds which follow theſe are of an oval Form, and have a long Down upon them.

The Cup in which this Flower ſtands, is form'd of numerous Scales. The Flower is compos'd of many tubular Floſcules in the Diſk, and flat ones on the Verge; and in theſe Floſcules of the Diſk are five Filaments, with the Buttons in a Cylinder. This ſhews the Plant to be one of the *Syngeneſia*: and the Floſcules of both Kinds producing ripe Seeds, it is of the *Polygamia Superflua* Kind.

Culture of this SENECIO.

It is a Native of *Africa*, and thrives beſt in a rich Soil.

The Seeds ripen ſo well in *Europe*, that it is eaſily rais'd from them by the Aſſiſtance of a little artificial Heat, in Spring.

Let them be ſown at the End of *February* in a Pot of rich Garden-Mould, and let that be ſet up to the Rim in a moderate Bark-Bed.

When the Plants are three Inches high, let them be remov'd into ſeparate Pots; and theſe ſet again in the Bed. Let them be encourag'd by frequent Waterings, and by Degrees inur'd to bear the open Air: and in *July* let them be ſet out among the Exotics.

At the Approach of Winter they muſt be taken into the Green-houſe, and muſt there have frequent Waterings, and as much Air as can be ſafely admitted: they will thus flower profuſely all Winter.

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CHAP. II.

The Care and Management of the Flower-Garden, Green-houſe, and Stove.

NOthing in the open Ground, will, at this Time, require more Care than the Carnation Plants. We have directed the Management of them in a particular Manner, in a preceding Number: but ſtill, altho' they are thus generally ſecur'd from the Injuries of Froſt, there requires a careful Attention to them according to the Seaſon.

Nothing is more likely to injure them, at this Time, than cold Rains. If theſe be ſuffer'd to fall heavily upon them, they will give the Froſt all that Power we have been ſo careful to prevent.

There is alſo a kind of cold Sleet that often falls heavily at this Seaſon. This is a kind of Snow diſſolv'd in Rain, and it does the ſame Miſchief more ſuddenly and more effectually; freezing about their Roots as it falls, and penetrates. Againſt both theſe the Covering we directed to be in Readineſs, muſt be drawn over the Plants.

This is the proper Defence againſt the Severity of the Seaſons; but it muſt only be us'd when needed: for to choak the Plants for Want of Air, would deſtroy them as effectually as the worſt Weather cou'd.

In this dead Time of the Year they are alſo expos'd, when uncover'd, to all Kinds of Devourers; for their juicy Leaves are not ill taſted; and the Scarcity of Proviſion will draw every Creature, that eats that kind of Food, to them.

I have always been accuſtomed to guard them, juſt as a Bed of Turnip or Radiſh-Seed, otherwiſe the Chaffinches, Sparrows, and other ſmall Birds, feed on their inner Leaves, and utterly deſtroy them.

Traps muſt alſo be kept conſtantly baited for Mice, which otherwiſe will be as fatal to theſe, as to the Seed-Beds in the Nurſery.

The Covering of Pea-ſtraw we have directed to be laid upon the other choice Flower-Beds, muſt be taken off in mild Weather, and laid in a Heap, that it may be ready for throwing on again on the ſame Occaſions: for if it be kept conſtantly on, the Plants will ſuffer from their Tenderneſs, when it is at once taken off in Spring.

In all theſe Things let the Gardener take Moderation for his Guide. He ſhould defend his Flowers, not ſmother them: and the great Art is to know juſt how much will anſwer the Purpoſe of Defence; for all the reſt is hurtful.

If there be much Rain, let ſome Straw be ſcattered over the Beds of new-planted Tulips, and ſuch other Roots, to catch a Part of the Wet: and, if ſuch Weather continue violent, Hoops muſt be plac'd over all of them, and Mats or Cloths drawn upon them. In the ſame Manner the Boxes of new-ſown Seeds muſt be defended from heavy Rains, or they will rot in the Ground.

This Care being taken of the open Ground, let the Gardener look to his Green-houſe. If the

Middle of the Days be mild, let him conſtantly uſe that Opportunity to give his Plants Air; for on this depends their Vigour.

On the contrary, if the Froſt ſet in ſevere, let him keep all cloſe; and if it continue hard, let him place Mats before all the Glaſſes: the Uſe of a Green-houſe is to defend the Plants from Froſt; and if that be admitted, the very Intent of the Building is deſtroy'd.

In very hard Winters it is difficult to keep the Houſe free from Froſt; and it would be always proper, in the Conſtruction of Greenhouſes, for that Reaſon, to run a Flue along the Front, that in the worſt Seaſons it might be us'd to keep the Air warm, in Spite of the Rigour of the Weather. For want of this, in hard Winters, many Greenhouſe Plants are loſt; and of thoſe which eſcape, a great Part loſe their Leaves and young Shoots; and become deform'd as well as ſickly.

In the Stove the ſame Kind of Care muſt be taken; but as the Plants there are tenderer, it muſt be in a greater Degree. The Heat muſt be kept up, or all is loſt: but this is the leaſt difficult Article; for nothing more is requir'd than to obſerve the Thermometer, and the Aſpect of the Plants: either would anſwer the Purpoſe; but, together, they are above the Reach of Error.

In the next Place, when any foul or dead Leaves are ſeen, let them be taken off, and carry'd out of the Houſe, that the Contagion may not ſpread; and let ſuch as require Water, have it regularly, tho' in ſmall Quantities at a Time.

There is no Period of the Year at which the Pine-Apple Plants require a more ſtrict Regard. Many of them will be ſet for Fruit, and ſhew the Rudiments of it at this Seaſon: theſe will require a particular Attention. If the Heat be ſuffer'd to decline, they will receive a Check which they never can recover.

The great Art in the Management of this Plant is when the Fruit firſt ſhews itſelf. If any Check happens from that Time to the Ripening, it will be ſmall and ill-taſted; but when it is kept conſtantly, from the firſt Appearance to the full Ripening, in a Condition of vigorous Growth, it will certainly be larger, and fine.

At this Time thoſe Plants on which the Fruit makes its Appearance, muſt be alſo carefully water'd; for without this it cannot continue properly encreaſing in Size. The Water muſt be allow'd, but in moderate Quantities; and always warm'd in the Stove.

SECT. II.

The Buſineſs of the SEMINARY, for this Week.

NOthing is to be done the preſent Week, in this Quarter, more than the Continuation of what we directed for the laſt, the pruning and trimming up the young Trees of the hardy Kinds; defending their Roots, by covering the Ground with Haulm of Peaſe, or other ſuch Matter; and ſeeing the Stakes are firm in the Ground which ſecure them.

Let a ſtrict Watch be kept againſt Accidents, as in the Flower-Garden.

Let Traps be ſet for Vermin about the Seed-Beds; and let the Gardener not only ſee that his Fences be ſecure, to keep out thoſe larger Animals that would bark his Trees, but examine the Trees themſelves, from Time to Time, to ſee that no Harm has happen'd to them in that Kind from unſeen Cauſes. This Care is all: at preſent nothing farther need be done.

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SECT. III.

POMONA, or the FRUIT-GARDEN.

LET the Gardener's Employment for the preſent Week in this Part of the Ground be the Care of his Eſpaliers. Let him recollect theſe have a double Uſe, to bear Fruit, and to defend the Quarters within; and that their Merit conſiſts in two Articles, that they be cloſe without crowding, and flat without Formality.

On this ſhort Leſſon depends all the Doctrine of *Eſpaliers.*

His Care muſt be to keep them in the proper Condition which theſe Articles require, if they have been well made; and if not, he may every Winter mend their original Fault, by bringing them nearer and nearer to the right Form.

For the Service of the preſent Week, in this Article let him provide ſome ſmall Aſh-poles, ſuch as are ſold in half hundred Bundles, and a few of the larger Kind for Stakes. Some Oſier Twigs well twiſted, with a Parcel of Wire and ſome Nails.

Thus provided, let him conſider the general Form of the Hedge, that he may begin to amend it, if faulty. The great Rule is this, the broader the Walk between, the higher may be the Hedge: the narrower that is, the lower the other muſt be.

Therefore if the Hedge be too high, the Conſequence of which is, that the Walk will be damp, and the Fruit will never be well taſted, let him in all his Work reduce it lower. And on the other Hand, if it be ſo low, that it will bear more Height, let that by all Means be encouraged, for it will the better decorate the Walk, and hide the Quarters.

This firſt ſettled, let him examine the Stakes by ſhaking them; and where they rock, let him at once unfaſten the Poles that are connected to them, and taking them up, drive ſome of his firm and large Aſh-Poles in their Place.

On this depends the great Excellence of an Eſpalier, which is its Firmneſs.

This Kind of Hedge ſhould ſtand like a Wall. No Sight is more diſpleaſing than to ſee it ſway with the Wind; nor do the Trees ever thrive that are ſubjected to this Motion.

All the looſe Stakes being replaced, let him faſten up the Poles he had looſened from the others, and then examine how thoſe and the reſt continue.

Wherever a Pole is decayed, let him take it away, as the Stake; and lay one of the ſmall Aſh-poles in the Place of it.

Let him faſten theſe by ſtrong Nails, to the upright Stakes, and then fix the Boughs to them.

When thoſe which were decay'd are thus removed, let him look to ſuch as are looſe. Let theſe be faſtened in the ſame Manner, as the new ones, by nailing to the firm Stakes; and ſecuring the faſtening in other Places with ſome of the Wire.

This finiſhes the Frame-work, and let him now look to the Trees and their Branches.

Theſe muſt be regularly train'd along the Frame, and faſtened at due Diſtances by the Oſier-twigs, not tying them ſo cloſe, ſo as to preſs or injure them.

Let him take Care that the Branches do not croſs one another; and that they are not laid in too thick.

When he has ſecured the Hedge in every Part, and ty'd theſe in, let him look over his Work, and ſee that the Branches are placed at a tolerably regular Diſtance, and all is then as it ſhould be.

In thoſe Eſpaliers formed of regular, ſquare, Timber, the Method is the ſame, only inſtead of the two Kinds of Aſh-poles, there muſt be provided Timbers of the two Sizes.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THIS Week it will be proper to lay in a farther Crop of Endive for blanching; and as the Seaſon is unfavourable, tho' the Work neceſſary, let the Gardener take theſe Precautions.

Let him take up a Parcel of Endive Plants from their common Bed; chuſing ſuch as have the moſt and beſt curl'd Leaves.

Let him draw ſome Cords acroſs an airy, cool Room, and tye up theſe Plants as they are taken out of the Ground, with the Roots upward.

This is beſt done with ſome Baſs; and the Trouble is little: the ſaving of the Plants, amply recompenſes it; for the Wet draining from their Leaves, in that Manner, they are exempted from the common Accident of rotting in the Ground, before they begin to blanch.

Open a Trench in a dry Part of the Kitchen Ground to the South, and lay in the Endive Plants after they have hung all Night in the South-ſide of the Ridge.

Bury them within half an Inch of the Tops; and when the Work is finiſhed, ſee there be ſuch a Slope that the Water will run off.

Thus they will blanch regularly, and will obtain not only a fine Colour, but a good Flavour.

This Week let the Gardener repeat his Care of ſearching for Snails in Holes, and for Caterpillars Neſts upon the Trees. The Nakedneſs of the Place, will make it eaſy for him to find them; and he will thus ſecure his Spring-Crops.

In the Beginning of Winter we directed the Gardener to plant out ſome of his early Kinds of Cabbage; and it will be proper now to watch the Opportunity of a mild and moiſt Day, to make a ſecond Plantation of that Kind.

Theſe ſhould be planted in a dry and rich Soil; and they will ſucceed the others for the Table.

One common Error we are here to caution the Gardener to avoid, which is the ſowing the Ground with another Crop whereon theſe Cabbages are to be planted.

This is a common Practice about *London*, where Land is very dear, and the People who raiſe theſe Things muſt make the moſt of every Inch of it: and from their Practice it is tranſcribed into the Books upon this Subject.

The uſual Crop is Spinnach, and they ſow it before they plant the Cabbages; but in this Caſe both are the worſe for it; and there is no Reaſon why the Country Gentleman, who has Ground enough, ſhould impair two Crops, by dividing the Nouriſhment, which is only ſufficient for bringing one of them to Perfection.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XXI.

For the Latter End of *JANUARY.*

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

1. RADIATED ANNUAL SENECIO.

Jan.

Plate XXI. Fig. 1.

Jan.

THE Wildneſs of Nature is in few Plants ſeen more gracefully than this. The Stalk ſpreads, without the leaſt Regularity, into innumerable Branches; and theſe are all crown'd with great Numbers of ſhewy Flowers; not double, as Culture gives many Kinds, but as we ſee the Hedge-Weeds riſe from Nature's ſowing, luxuriant in Simplicity.

The long Rays of the Flower, have, in the Minds of thoſe who judg'd leſs accurately, remov'd the Plant out of its proper Place. Theſe, from the Reſemblance of it to the *Aſters*, call'd it by that Generical Name. *Aſter Africanus annuus Senicionis foliis*, is its Title in COMMELINE.

LINNÆUS reduces it to the *Senecios*; and its proper Denomination is *Senecio corollis radiantibus foliis laciniatis, annua.*

The Root is fibrous, white, and of a bitter Taſte.

The Stalk is weak, irregularly upright, diffus'd into innumerable Branches; in Colour, Crimſon, duſted with white; and hung about with a white woolly Down.

The Leaves ſtand as irregularly as the Branches; but they are numerous and of a handſome Figure. They are long, moderately broad, and very deeply and irregularly divided into numerous jagged Segments. Their Colour is a fine ſtrong and lively green; and the Middle Rib, which is very large on the under Part, is red, like the Stalk, and duſted over with the ſame greyiſh Powder.

The Flowers terminate the Diviſions of the Branches, which are innumerable. They are large and beautiful: the Rays are of a fine deep Crimſon, and the Diſk or Central Button yellow.

The Structure of the entire Flower is this: A Conic Cup, form'd of a Number of narrow, oblong, and pointed Scales, ſurrounded at the Baſe with a few ſhort and broad ones, contains a Cluſter of tubular Floſcules, arrang'd into a rounded Diſk; and a few broad, oblong, and elegant Rays ſurrounding them.

The Floſcules in the Diſk have each five Filaments, with coaleſcent Buttons. There is alſo in the Centre of each an oval Rudiment of a Seed, and a ſingle Style ſplit at the Top. Theſe therefore are Hermaphrodite Flowers: thoſe in the Verge are Female only; but both ripen Seeds, which are wing'd with Down.

The Coaleſcence of the Buttons ſhews the Plant one of the *Syngeneſia*; and as the Central Flowers can ripen their own Seeds, the Impregnation of the Female Floſcules in the Verge not being neceſſary to the Continuation of the Species, the Subdiviſion to which it belongs is that of *Polygamia Superflua.*

Culture of this SENECIO.

The Plant is a Native of *Africa*, where it thrives beſt on the Sides of Hills, near Springs, and in the Neighbourhood of Foreſts. A rich Mould and due Moiſture, with ſome Advantage of Shade, are therefore the true Means of raiſing it to Perfection.

The Seeds which ripen here grow freely; and there is no Occaſion for farther Thought about its Propagation.

Tho' a Native of *Africa*, it will live without a Stove; but the Shelter of a Green-houſe at Autumn is very proper to keep it in Flower.

I have, in favourable Summers, made it thrive for a very long Continuance in the open Ground; but at the beſt it will be deſtroy'd in ſuch Situations, before the Time of its coming to the moſt valuable Period of flowering, which is to this Seaſon, thro' the dead of Winter.

Let ripe Seeds be gather'd in Autumn; for they are better than ſuch as are produc'd in other Seaſons. Let theſe be laid in the Heads upon a paper'd Shelf, and early in Spring ſhook out.

Let them be ſown upon a moderate Hot-Bed with thoſe of the tender Annuals, and let the Plants be treated in the ſame common Manner.

When they are of a Height to tranſplant, let them be remov'd into a ſecond Hot-Bed; after this into ſeparate Pots; and in theſe let them be ſhelter'd under a Hot-Bed Frame.

From Time to Time let them be water'd; and let them have as much Air as the Seaſon will permit, hardening them by Degrees to the taking of them out.

In *June* let the Pots be ſet among the Exotics in the open Air; and let two or three of the Plants be ſet in the open Ground.

Chuſe for this Purpoſe, a Spot where the Earth has ſome Moiſture, and where there is at Noon the Shade of Trees. Let the Plants be looſen'd from the Pots, with the whole Ball of Earth about them, and ſet in with Care.

The Management of theſe, and of ſuch as are potted, muſt be the ſame. No Compoſt is neceſſary for either: common Garden-Mould agrees perfectly well with them. They muſt be ſuffer'd to ſpread out into Branches in their own wild Way; and from Time to Time carefully water'd.

Thoſe in the Borders will be the largeſt Plants; but there will be a greater Number of Flowers on ſuch as are potted. Thoſe in the open Ground will be deſtroy'd early by the Froſts of the latter Part of Autumn; but ſuch as are in Pots being remov'd with the other Plants into the Greenhouſe in Winter, will flower till Spring.

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2. CRIMSON CRASSULA.

Plate XXI. Fig. 2.

We here bring before the Curious Reader a Plant worthy all his Attention.

Singularity and Beauty are the two Sources of Recommendation in Collections of Exotic Plants; and Nature has diſtinguiſh'd ſome by one, and recommended others by the other.

This Plant poſſeſſes both; each in ſo high a Degree, that it wou'd be recommended ſufficiently by that alone; and either ſo equally, that 'tis not eaſy to ſay for which it ſhould be moſt regarded.

A vaſt and regular Tuft of Flowers crowns the ſingularly leafy and beautiful Stalks, and appears as an artificial Noſegay. Every one who has met with the Plant, has been ſurpriz'd and pleas'd with it; but it was not early refer'd to the proper Genus, or call'd by its diſtinctive Name.

COMMELINE makes it a *Cotyledon*; and from him BREYNIUS, and others, have recorded it under the ſame Title.

LINNÆUS, much more correct, has determin'd it a *Craſſula*; and adds, as the Diſtinction of the Species, *foliis planis, cartilagineo-ciliatis baſi connato vaginantibus: Craſſula*, with flat cartilaginouſly ciliated Leaves, join'd at the Baſe, and ſurrounding the Stalk.

It is robuſt and ſhrubby.

The Root is thick and ſpreading: the Stem, where naked, is of a duſky brown, firm, and hard.

The Leaves are very ſingular and very beautiful: they are oblong, broad, and ſharp-pointed. Their Subſtance is firm, their Colour a yellowiſh green, and they are edg'd with a filmy Rim. At the Baſe they grow together, and encompaſs the Stalk.

The Flowers are extremely beautiful and numerous, and they ſtand in great Tufts, in the Manner of Umbells. They are large enough to be very conſpicuous; and their Colour is a bright and glowing Crimſon.

Each has its ſeparate Cup, compos'd of five oblong narrow, pointed Leaves, which converge, and form a kind of Tube.

The Body of the Flower is form'd of five Petals. Theſe have very long and ſlender Bottoms, which coaleſce at the Extremity; and the broad Part of each Petal is of an oblong oval Form and pointed, fully ſpread out; and naturally, when at the Extent, turning a little backward.

Deep in the Centre of the Flower is plac'd the Rudiment of a five-parted Fruit; and at its Baſe a ſingular and elegant tho' ſmall Nectarium.

Jan.

This conſiſts of Scales, equal in Number to the Petals: one riſing from the Baſe of each Diviſion of the Rudiment. They are nip'd at the End.

The Student who purſues by the true Path the Road of Science, when he has obſerv'd theſe, which he will underſtand to be a proper Part of the Generical Character, will look among the Filaments for the Claſſical Mark. Theſe he will find in Number five; ſhort, upright, annext to the Baſe of the narrow Bottoms of the Petals, and terminated, each by its ſimple Button.

Five Styles riſe in the Midſt, one from each Part of the Rudiment; and the Fruit which ſucceeds, is compos'd of five Capſules.

The five Filaments in this Flower ſhew the Plant to be one of the *Pentandria*; and the five Styles determine in the ſame Manner that it is one of the *Pentagynia*, the fifth Sub-diviſion of that Claſs.

Culture of this CRASSULA.

It is a Native of the *Cape of Good Hope*, and of other Parts of *Africa*, but will bear the open Air with us in Summer Months, and live thro' the worſt Winters in the Shelter of a Greenhouſe.

The beſt Methods of propagating it is by Seeds; and the fitteſt Compoſt is one Part Paſture-Ground, and one fourth rotted Cow-dung.

Early in Spring let a Pot be fill'd with this, and ſcatter over the Surface a Dozen of the Seeds. Sift upon theſe a Quarter of an Inch of the ſame Compoſt, and ſprinkle it with a very little Water.

Set this Pot up to the Rim in a Bark-Bed of moderate Heat, and once in two Days give it again a very ſlight Sprinkling of Water.

The Plants will thus appear: they muſt be every Evening very gently water'd; and in the Middle of the Day ſome Air muſt be admitted.

When they have thus been nurs'd up to ſome little Height, let as many ſmall Pots as there are good Plants, except one, be fill'd with the ſame Compoſt. Let the ſeveral young Plants be taken up with Care, only leaving the one which ſtands neareſt the Middle, and which muſt be left alone in the original Pot. Plant the reſt with great Care, and ſet the Pots in the Bark-Bed up to their Rim. Give them a very gentle Watering; and cover the Glaſſes with a Mat during the Heat of the Day.

Let them be thus manag'd till they are well rooted; then by Degrees harden them to the Air.

After this they will only require to be ſhifted into larger Pots, as they grow too big for the firſt; and to be by Degrees inur'd ſo far to the Air, as to bear it in the moſt favourable Seaſons. They muſt then be ſet out for the Summer among the Exotics which bear that Expoſure; and at the Approach of Winter remov'd into the Greenhouſe. They will here bloom from *July* to the very End of Winter, if rightly manag'd; ſuffering no Flower to ſtand to Seed; and at Times repeating gentle Waterings.

3. ROUND-LEAV'D CYCLAMEN.

Plate XXI. Fig. 3.

This is a common Ornament of our Gardens; and added to the pleaſing Colour of its Leaves, and Beauty of its Flowers, it has no ſmall Recommendation from the Seaſon in which they are produc'd: this is a Time when few can be had to grace the open Ground; and thoſe few therefore have a double Value.

A Plant ſo conſpicuous, and native of many Parts of *Europe*, as well as univerſal in Gardens, could not eaſily eſcape the Notice of any who have ſtudy'd Botany. It ſtands under the ſame general Name, *Cyclamen*, in all of them; but we meet with various Additions to this generical and univerſal Term, according to the Changes the Plant receives from Accident or Culture.

The moſt proper Addition to the Name in the old Writers, is that of CASPAR BAUHINE; *Orbiculato folio, inferne purpuraſcente: Cyclamen*, with a rounded Leaf, Purple underneath.

LINNÆUS, who ſuſpects the Form of the Leaf to be capable of great Variation, and therefore too uncertain for a diſtinctive Character, adds, *corolla retroflexa: Cyclamen*, with a retroflex Flower; uniting the fancy'd Species of others under that common Name as only Varieties.

The Root is large and tuberous.

There is no common Stalk for Leaves and Flowers, as in the Generality of Plants; but each Leaf and each Flower riſes directly from the Root upon its proper Footſtalk.

Thoſe of the Leaves are purpliſh, long, weak, and ſlender.

The Leaf itſelf approaches to round; but it is deeply divided for the Reception of the Stalk, which adheres in the common Way to an indented Edge, not as in ſome round Leaves, to the Centre.

Beſide this Indenting, which, tho' it opens little, takes from the regular Roundneſs of the Leaf, it is terminated at the oppoſite Part by a ſmall Point.

The Colour is, on the upper Side, a fine deep green blotch'd with white; and on the under Side a deep red, between Purple and Crimſon. The Veins are large and conſpicuous; and they are throughout of a pale Crimſon.

The Footſtalks of the Flowers exceed thoſe of the Leaves in Length, and are uſually more erect. They are as ſlender as the others; and their Colour, which is red at the Bottom, becomes toward the Top pale and whitiſh. The Flowers ſtand ſingly, one on each of theſe Stalks; and their Colour is a deep purpliſh red.

Each has its Cup, which is rounded, and divided at the Edge into five oval Segments.

The Body of the Flower conſiſts of a ſingle Petal, but is of a very peculiar Form. At the Bottom it is rounded, and droops: the Part from this riſes and is divided into five large Segments; and there is a prominent Neck. This falling, there comes a large round Seed-veſſel of the Berry Kind, covered with a Shell, and burſting, when ripe, by five Parts at the Top.

To underſtand the Place of this Plant in the Linnæan Syſtem, the Student muſt tear open the tubular Part of the Flower: he will find within that five Filaments, ſhort, and terminated by convergent Buttons; and in the Midſt of theſe a ſingle Style. This ſhews the Plant to be one of the *Pentandria Monogynia.*

Culture of this CYCLAMEN.

A very little Trouble and Attention will ſerve to ſtock a Garden with this humble Plant; but there will require that Patience which ſhould be as much the Characteriſtic of the Gardener as of the Angler; for it will be ſome Years before the Seedlings riſe to flower.

Let him gather ripe Seeds from an old and well-eſtabliſh'd Root of a good Kind, for the Varieties are many.

The Beginning of *June* is the beſt Seaſon for collecting them; and he will at that Time find the Seed-veſſel cloſe to the Ground upon a twiſted Stalk. This was the original Footſtalk of the Flower; and it thus runs up into a ſpiral Form, by the great Contrivance of Nature, to draw the ripening Seed-veſſel cloſe to the Earth, where the Leaves may ſhelter it.

When they have perform'd this uſeful Office, they fade, and nothing appears till many Months after, when the Flowers riſe upon their naked Footſtalks, and ſoon after them the Leaves, mixing among the later Part of the Bloom.

When the Gardener has taken up ſome of the Seed-veſſels, at this advanc'd Seaſon, let him lay them at a Diſtance from one another, upon a paper'd Shelf, to dry. They will burſt, after a few Days, and the Seeds will fall out. Let him ſhake out ſuch as do not fall naturally; and having ſeparated them, let him ſpread them thin upon the ſame Shelf, to harden now they are naked.

In the latter End of *Auguſt* prepare a Border for them in this Manner:

Dig out the Mould two Foot deep, and throw in a Parcel of large Gravel to cover the Bottom two or three Inches. Then put in the Mould again; level the Surface, and ſcatter over it the Seeds, ſo that they may lie at about an Inch Diſtance. Sift over them a Quarter of an Inch of the ſame Mould, and throw on ſome Pieces of Furze Buſhes.

If the ſucceeding Time be dry, let this Bed have now and then a little Water. After this the Plants will riſe and thrive without any farther Care than that of keeping them clear from Weeds. They ſhould be thin'd where they riſe too cloſe; and ſuch as are taken up for this Purpoſe, ſhould be planted in more vacant Spots.

They muſt remain in the Bed till they are come to the Time of their flowering, which will not be till about the fourth Year.

Then the beſt are to be mark'd, for there will riſe many Varieties: and when the Leaves which ſucceed their Flowers, are faded, that is, toward the latter End of the *June* following, they muſt be taken up, and planted out in different Parts of the Garden, leaving as many as can conveniently ſtand in the original Bed. Their Diſtance in this ſhould be about two Foot; for they will grow in a Number of Years to more than one Foot in Diameter in the Root.

After this they require no particular Care. They bear all Seaſons with us, and flower in more Profuſion every ſucceeding Year, as the Roots encreaſe in Bigneſs.

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4. EVERGREEN MELIA.

Plate XXI. Fig. 4. The Singnlarity and Beauty of this Tree brought it early into the familiar Knowledge of the Studious in Botany; and we find it nam'd by them with great Praiſe, under the Title of *Azedarach.*

Tournefort has diſtinguiſh'd it by an Addition of great Praiſe, *Azederach ſemper virens, & florens: Azederach* ever-green and ever-flowering.

Linnæus, baniſhing the harſh and barbarous Name by which it had been ſo univerſally call'd for ſome Time, has given it that of *Melia*; and, as the Leaves on this are branched, and there is another Species which has them ſimply pinnated; he adds, as the Diſtinction of this *foliis bipinnatis: Melia* with doubly pinnated Leaves.

This is a Character not ſeen in thoſe Leaves which accompany the Flowers at the Extremity of the Branches, but on thoſe which are plac'd lower.

It is a Tree of conſiderable Bigneſs. The Root ſpreads far; the Trunk riſes upright and thick; and at ſome Height ſpreads into many Branches. The Bark is brown; but on the young Twigs green.

The Leaves are very numerous and large: they are plac'd in an irregularly pinnated Manner; ſome on ſimple and ſome on divided Ribs; and each Pinna, or particular Leaf, is oblong, moderately

Pl: 21.

Radiated annual Senecio
Crimson Crassula
Round leav'd Cyclamen
Ever-green Melia
Warted Coral Aloe
Orchioide Hyacinth
Boyx Sculp.

derately broad, ſharp-pointed, and ſerrated. Their Colour is a very bright green on the upper Side, but on the under paler.

The Flowers crown the Extremities of the Branches in large Cluſters.

They are ſeparately ſmall, and they are plac'd on long and ſlender Footſtalks. Their Colour is a faint Purple, paler toward the Edges, and ſomewhat deeper in the Middle.

The Fruit which follows is of a rounded Form, and ſoft on the Outſide; it contains a Stone alſo of a roundiſh Shape, but furrow'd in five Places, and divided within into as many Cells; in each of which is contain'd an oblong Seed.

The Flower has ſomething in its Conſtruction ſo extremely ſingular, that it very well deſerves the moſt curious Inſpection. The Cup in which it ſtands is ſmall, form'd of a ſingle Piece, and is divided at the Edge into five little upright Segments.

The Body of the Flower is compos'd of five Petals, but one is frequently abortive: theſe are oblong, narrow, and wide expanded; and in their Midſt riſes a Nectarium of a peculiar Shape: it is long, upright, tubular, and form'd of a ſingle Piece, divided by ten ſlight Indentings at the Edge.

Within this ſingular Appendage ſtand the Filaments; they are in Number ten, correſponding to its ten Indentings. They are extremely ſhort; they have their Inſertion on the Inſide of the Nectarium, but a little below its indented Rim; and they are crown'd with ſmall Antheræ or Buttons, whoſe Heads ſcarce riſe above it. The Rudiment of the Fruit is lodg'd at the Bottom; and its Style, which is ſingle, riſes to the Height of the Filaments.

The Student will not be at a Loſs from this to find the Claſs to which the *Melia* belongs in the LINNÆAN Syſtem, or the Sub-diviſion under which it is arrang'd. It is one of the *Decandria Monogynia*.

Culture of the MELIA.

The Tree is a Native of *Ceylon*, and many other Parts of the *Eaſt*, where it lives in barren Ground, and cloaths the naked Rocks with its profuſe Verdure at all Seaſons.

Notwithſtanding the Warmth of its native Climate, the Tree will ſtand our Winters in the open Air, when it has arriv'd at a moderate Strength: but Care is requir'd to bring it to this Stature, and a proper Soil and Expoſure muſt be allotted for it when planted out, or our Froſts will kill it.

Nature directs what we are to do with Reſpect to theſe Articles. The Place where it is planted out, muſt be warm and dry, open to the Sun, and ſhelter'd from cold Winds; and the Soil muſt be a dry and not over rich Paſture Earth.

This is the Ground to receive it when of ſix Years Growth; but to bring it to this Strength more Caution is required.

The Fruit is to be gather'd when perfectly ripe; and the Stones having lain ſome Time to dry, the Kernels are to be taken out of them: theſe muſt be left four Days upon a paper'd Shelf, and then ſown in the following Manner:

Fill two Pots with freſh Paſture-Mould, and ſtrew over the Surface of each half a dozen of theſe Kernels, and as many of the whole Stones; ſift a Quarter of an Inch of the Earth over them, ſet the Pots up to the Rim in a Bark-Bed, and give them a little Water: one or other of the two Kinds will certainly ſucceed.

When the Plants come up, they muſt be water'd at Times, and by Degrees harden'd to the Air, by raiſing the Glaſſes.

Let them be nurs'd up in this Manner till the Heat of Summer, and then remov'd carefully into the open Air among the Greenhouſe Plants.

At Autumn let them be remov'd with the reſt into the Houſe: and the ſucceeding Spring let them be carefully taken up, and planted into ſeparate Pots, ſetting theſe up to the Rim in a Bark-Bed, till they have again taken Root.

After this they muſt be by Degrees inur'd again to the Air, and ſet out with the other Greenhouſe Plants.

From this Time they require the common Management of the other Green-houſe Plants, till they are of ſuch an Age as we have nam'd for planting in the open Ground: this muſt be done in *April*, with great Care; ſhaking them out of the Pot with the Ball of Earth entire; and planting them in a Hole where the Mould is well broke.

They muſt be water'd carefully till well fix'd in their new Place, and they will then require no farther Care.

5. WARTED CORAL ALOE.

Plate XXI. Fig. 5. The everlaſting Variety of the Aloe Kinds has ſufficient Attention among our Collections; and there are few Species which more deſerve it than the preſent.

Many of the later Writers have nam'd this; and ſome have raſhly made two or three imaginary Species from its various Aſpect, when more or leſs vigorous, or under a better or worſe Management.

COMMELINE, who with great Diligence examined the Aloe Kind, calls it *Aloe Africana flore rubro, folio triangulari & verrucis ab utraque parte albicantibus notato.*

LINNÆUS, *Aloe foliis linguiformibus patulis diſtichis:* Aloe, with Tongue-like Leaves, that ſpread in two Series. A very expreſſive Name.

The Root is thick and pale.

The Leaves riſe from this in a Cluſter, and ſplit, as it were, into two Arrangements: they are ſo very ſingular and beautiful, that if the Plant had nothing more to recommend it, none would refuſe it a Place in their Collections.

They are eight Inches long, moderately broad, thick, and ſomewhat triangular in Form.

Their Colour is a very ſtrong and elegant green; and they are cover'd on both Sides with white Tubercles, in the Manner of Warts. Theſe have no regular Shape or Form, but lie ſcattered in a thouſand Figures upon every Part of the Leaves, to the Extremity, where they terminate in a Point.

The Flower-ſtalk riſes to the Height of two Foot and a half, and is round, firm, and of a gloſſy red, reſembling a Piece of poliſh'd Coral. Toward the Top it droops with the Weight of a long Spike of Flowers.

Theſe are oblong, hollow, and divided at the Rim into ſix irregular Segments, which turn back a little. Each Flower has a ſhort and ſlender Footſtalk, of a paler red than the principal Stalk, on which it hangs in a drooping Poſture.

The general Colour of the Flower is red, but toward the Baſe it is greeniſh; and from this Part there riſe ſeveral Lines, or very narrow Streaks of white. Theſe, as well as the green Baſe, are moſt diſtinct in the unripe Flowers: for in thoſe fully mature, the red is almoſt univerſal.

For the reſt, the Flower is like the others of the Aloe Kind, which we have deſcribed before. It is form'd of one Piece; it hangs to the Footſtalk without a Cup, and within, there ſtand ſix Filaments, which are of the Length of the tubular Part, or a little more, with a ſingle Style among them.

This ſhews the Plant to be one of the *Hexandria Monogynia* of LINNÆUS.

The Seed-veſſel which follows, is oblong, and form'd of three Parts, mark'd with three Furrows, and divided into three Cells, in each of which are numerous ſmall Seeds.

Culture of this ALOE.

This is one of the *African* Kinds which produce a great Number of Off-ſets, and are eaſily propagated from them.

The beſt Soil for it is thus made:

Mix equal Parts of dry Paſture-Earth and Sand: add half the Quantity of ſoft Chalk. To four Buſhels of this Mixture put a Peck of Lime. Mix theſe well, and let them lie out a Year.

Then fill as many Pots as there are to be Suckers rais'd. Let the Suckers be carefully taken from the old Plants; and laid on a Shelf in an airy Room, till the Bottom, where they adher'd, is dry: they are then fit to be planted.

The Pots muſt be very ſmall; and the whole Management the ſame as in the other *African* Kinds which we have mentioned already.

If this Compoſt be not made in Time, the common Kind we have already directed for the *African* Aloes, will anſwer the Purpoſe: but it is in this particular Mixture I have ſeen the Plant riſe to its full Perfection.

6. ORHIOIDE HYACINTH.

Plate XXI. Fig. 6. This is a Plant of the moſt extreme Singularity: worthy to be every where introduced among the moſt Curious; and demanding the Notice of the Botanical Student in a peculiar Manner, as it greatly departs from the exterior Form of the Genus to which it belongs, and very much reſembles another.

Let the Student caſt his Eye unprejudicedly upon the Figure given in the annexed Plate (which is taken from a very perfect Specimen of the Plant) and he will ſcarce diſtinguiſh that it is of the Hyacinth Kind. The Leaves, the Stalk, and the Manner of growing, perfectly reſemble the *Orchis's:* and the exterior Structure of the Flower has nothing of the Hyacinth Form; nor Colour.

The Characters thus miſrepreſented by the Wantonneſs of Nature to the more careleſs View, are impreſſed diſtinctly on the more eſſential Parts, and are too plain and obvious to admit Miſtake.

Breynius hence called it by its proper Generical Term, Hyacinth, adding for its Diſtinction from the others, *Orchioides Africanus bifolius maculatus major flore ſulphureo obſoleto majore.*

Linnæus gives it a ſpecifick Title, ſufficiently diſtinct in fewer Words, *Hyacinthus Corollis irregularibus ſexpartitis*, Hyacinth with irregular Flowers, divided into ſix Parts.

The Root is round, white, and full of a ſlimy Juice.

The Leaves which riſe from it are naturally two. They are long, conſiderably broad, undivided at the Edges, and obtuſe at the End. They envelope one another at the Baſe, and there cheriſh and defend the Rudiment of the Stalk. Their Colour is a very beautiful green, and they are ſpotted with a duſky, blackiſh Purple.

The Stalk is thick, round, and of a pale green, ſpotted in the Manner of the Leaves with brown; and toward the Baſe a little ting'd with Purple; it riſes between the two Leaves, ſurrounded a great Way up by their Baſes, and grows to fifteen Inches in Height.

There are no Leaves on this, but its Top is decorated with a looſe Spike of Flowers. Theſe are in the higheſt Degree ſingular as well as beautiful; they ſtand at a moderate Diſtance, and they are larger than the Generality of the Hyacinth kind. Their Colour is a deep yellow: duſky on the Outſide, and more bright within.

They appear gradually and ſlowly after one another, which is a great Recommendation.

Each is form'd of a ſingle Petal, divided very deeply and irregularly into ſix Segments.

In the Centre riſe ſix Filaments; and in the Midſt of theſe is placed a ſingle Style.

The Seed Veſſel that follows each Flower is ſhort, thick, and mark'd with three Furrows; it is divided within into three Cells, and contains numerous, very minute Seeds.

Theſe Filaments and the ſingle Style declare it to be one of the *Hexandria Monogynia* of Linnæus; the ſixth Claſs, and its firſt Section.

Culture of the Hyacinth.

The Plant is a Native of the *Cape of Good Hope*: it is found about the Sides of Woods, where the Ground is rich and damp, and where the dead Leaves ſhelter its Root in the colder Seaſons.

Breynius was the firſt Perſon who ſaw it in *Europe*, flowering in Mrs. *de Flines*'s Garden.

Its natural Soil directs us how to cultivate it; and the beſt Method will be by Roots brought from the Spot where they are natural: if theſe be taken up when the Leaves fade, they will bear to be a long Time out of the Ground. After this it may be encreaſed by Off-ſets.

For its Reception let the following Compoſt be prepared, and mellow'd by frequent Turnings.

Mix two Buſhels of rich Meadow Earth, one Buſhel of Pond Mud, three Pecks of Mould from under a Wood Pile, and one Peck of Marle; or if that cannot be had, of ſoft Chalk broke to pieces the ſame Quantity.

Put into the Bottom of as many Pots as you have Roots, ſeveral Pieces of looſe Gravel, to keep open the Hole for diſcharge of Water, and then fill them up within one third of the Top with the Compoſt.

In the Middle of each Pot place one Root: take Care the Bud be exactly upright, and cover it three Quarters of an Inch with the Mould; ſifting it carefully upon it.

Set theſe Pots in a ſhady Place, and once in five Days give them a little Water.

Let them remain there till the Bud begins to ſhew itſelf above the Surface, unleſs ſevere Weather intervene. Then place them in a more warm and open Situation; and at the Approach of Winter bring them into the Stove. Water them more frequently than before, but a little at a Time, and they will thus be brought to glow in all their Beauty.

Leſs Heat and leſs Care will bring them to flower, but not in their proper Strength, and the Flowers will be few and browniſh.

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CHAP. II.

The Care and Management of the Flower-Garden, Green-houſe, and Stove.

LET the Care of the Gardener, and his conſtant Attention to the ſeveral Parts of his Ground, ſave us the Tediouſneſs of Repetition, by going over his Borders in the ſame Manner we have directed in the preceding Weeks; but as the Froſt may now be more dangerous than ever to his Seedling Plants, let him take redoubled Care to defend them.

The choiceſt Kinds we have directed him to ſow in Boxes, and theſe he ſhould now ſet in the Ground; or otherwiſe the Shelter he lays upon the Surface will not prevent the Effect of Froſts thro' their Sides.

Let him chuſe the higheſt and the dryeſt Spot he can, and take Care that it be open to the South. Here let him dig out a Piece of Ground capable to receive the Boxes, a full Spade deep: let him ſtrew over the Bottoms ſome Coal Aſhes, with the Cinders among them; and upon a ſlight Bed of theſe ſet in the Boxes.

Let him fill up the Space about the Boxes with dry Mould, mix'd with ſome Sand, and well beat in; and upon the Surface of the Earth in the Boxes, which will be then upon a Level with the Ground, let him ſtrew ſome Pea Straw.

This Conduct will preſerve the Seedlings thro' the moſt ſevere Froſts; and it is not needful except when they are ſevere.

We have directed on a preceding Occaſion, the ſowing ſome of theſe Flower Seeds on warm Borders, in the open Ground. Theſe will require the ſame kind of Care. Let a good Quantity of Straw be thrown upon the Surface, and let a large Parcel of dry Mould be thrown into the Alleys between theſe Beds, if there be ſeveral, or all about the Edges if there be only one. In either Caſe let this additional Mould be carried up to the Level of the Bed; and let it lie a Foot thick round the Sides.

In this Manner the Generality of Seedlings may be preſerved, and raiſed to Perfection without the Trouble that attends the Way in Boxes: but for the more tender and delicate Kinds, that Method is ſtill preferable.

This Week let the Gardener procure a good Quantity of freſh Dung, and throw it carefully up in a Heap to warm gradually. It is to lie about eight Days in this Heap; and will then be fit for the making hot Beds for raiſing the tender Annuals from Seed. This Time of heating with twice well Turning, will make it perfectly fit for the Purpoſe.

The next Care muſt be of the Compoſts, which are to receive particular Kinds, and are ſuited to their natural Condition. Theſe which lie in proper Heaps in ſome waſte Place, muſt be turn'd over and mix'd, and broken very thoroughly.

The Buſineſs thus far done, let the Gardener viſit with due Attention, his Green-houſe and Stove.

In what Manner he is to manage particular Plants we have deliver'd under each Kind, and need not repeat here; but there are ſome general Cautions.

The Seaſon is naturally at the worſt, and requires all the Regard to the Plants that can be ſhewn.

The Green-houſe muſt be kept cloſe, and guarded with Shutters, and Mats in the ſevere Nights; but as this always tends to weaken the Plants, every Opportunity muſt be taken of giveing them Air in the Middle of tolerable Days.

Where there is a Flue carry'd under the Green-houſe, there muſt be a little Fire uſed to keep the Air in a gentle Warmth at theſe ſevereſt Times; and where this is not the Caſe, ſome very clear Fire muſt be made in a portable Furnace, or ſeveral Wax Candles muſt be kept burning in the very worſt Time: Tallow do not well ſupply their Place.

The Practice in *Holland* is to keep a little Fire in one Corner of the Green-houſe with a few mouldering Turff. We have theſe in ſome of our Fen Countries: they are worth almoſt any Trouble of Carriage for this Purpoſe; and ſomething tolerably like them may be dug in moſt Places where there is boggy Ground.

Theſe will keep a Heat without Offence or Violence ever ſo long: a Couple of them will be mouldering two Days into Aſhes without going entirely out; and a Couple more laid upon the Embers, will keep in the Fire in the ſame Manner. Nothing is ſo fit for this Service of the Green-houſe.

While the Windows are kept cloſe, let the Waterings be very ſparing.

Let all dead Leaves be taken off, and carried out of the Houſe; and whereever there appears any Mouldineſs, let it be carefully and perfectly clear'd off with a Spunge dip'd in warm Water.

Let the ſame Care be taken in caſe of Inſects; only inſtead of warm Water alone, let the Spunge be wetted in a ſtrong and warm Decoction of Wood Soot and Tobacco.

This Week it will be very proper to repair the Bark Bed in the Stove.

One of the fineſt Days that happen muſt be choſe for this Purpoſe; and the Work conducted with Diſpatch and Care.

All the Pots muſt be taken out, and the Bark muſt be carefully ſtirred and laid level. If there want a Supply, a little muſt be added that is in good Condition, and has lain to drain; and the Pots muſt be ſet in carefully and evenly again. This will not only ſet thoſe upright which had been ſettled unevenly, but the Heat of the Bed will be refreſh'd gently by the Motion; and eſpecially if any Addition of freſh Bark have been made, which will be very uſeful at this Seaſon.

All this Time let the Heat of the Air be carefully kept up by the Thermometer.

Jan.

derately broad, ſharp-pointed, and ſerrated. Their Colour is a very bright green on the upper Side, but on the under paler.

The Flowers crown the Extremities of the Branches in large Cluſters.

They are ſeparately ſmall, and they are plac'd on long and ſlender Footſtalks. Their Colour is a faint Purple, paler toward the Edges, and ſomewhat deeper in the Middle.

The Fruit which follows is of a rounded Form, and ſoft on the Outſide; it contains a Stone alſo of a roundiſh Shape, but furrow'd in five Places, and divided within into as many Cells; in each of which is contain'd an oblong Seed.

The Flower has ſomething in its Conſtruction ſo extremely ſingular, that it very well deſerves the moſt curious Inſpection. The Cup in which it ſtands is ſmall, form'd of a ſingle Piece, and is divided at the Edge into five little upright Segments.

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Let the Student caſt his Eye unprejudicedly upon the Figure given in the annexed Plate (which is taken from a very perfect Specimen of the Plant) and he will ſcarce diſtinguiſh that it is of the Hyacinth Kind. The Leaves, the Stalk, and the Manner of growing, perfectly reſemble the *Orchis's:* and the exterior Structure of the Flower has nothing of the Hyacinth Form; nor Colour.

The Characters thus miſrepreſented by the Wantonneſs of Nature to the more careleſs View, are impreſſed diſtinctly on the more eſſential Parts, and are too plain and obvious to admit Miſtake.

BREYNIUS hence called it by its proper Generical Term, Hyacinth, adding for its Diſtinction from the others, *Orchioides Africanus bifolius maculatus major flore ſulphureo obſoleto majore.*

LINNÆUS gives it a ſpecifick Title, ſufficiently diſtinct in fewer Words, *Hyacinthus Corollis irregularibus ſexpartitis*, Hyacinth with irregular Flowers, divided into ſix Parts.

The Root is round, white, and full of a ſlimy Juice.

The Leaves which riſe from it are naturally two. They are long, conſiderably broad, undivided at the Edges, and obtuſe at the End. They envelope one another at the Baſe, and there cheriſh and defend the Rudiment of the Stalk. Their Colour is a very beautiful green, and they are ſpotted with a duſky, blackiſh Purple.

The Stalk is thick, round, and of a pale green, ſpotted in the Manner of the Leaves with brown; and toward the Baſe a little ting'd with Purple; it riſes between the two Leaves, ſurrounded a great Way up by their Baſes, and grows to fifteen Inches in Height.

There are no Leaves on this, but its Top is decorated with a looſe Spike of Flowers. Theſe are in the higheſt Degree ſingular as well as beautiful; they ſtand at a moderate Diſtance, and they are larger than the Generality of the Hyacinth kind. Their Colour is a deep yellow: duſky on the Outſide, and more bright within.

They appear gradually and ſlowly after one another, which is a great Recommendation.

Each is form'd of a ſingle Petal, divided very deeply and irregularly into ſix Segments.

In the Centre riſe ſix Filaments; and in the Midſt of theſe is placed a ſingle Style.

The Seed Veſſel that follows each Flower is ſhort, thick, and mark'd with three Furrows; it is divided within into three Cells, and contains numerous, very minute Seeds.

Theſe Filaments and the ſingle Style declare it to be one of the *Hexandria Monogynia* of LINNÆUS; the ſixth Claſs, and its firſt Section.

Culture of the HYACINTH.

The Plant is a Native of the *Cape of Good Hope:* it is found about the Sides of Woods, where the Ground is rich and damp, and where the dead Leaves ſhelter its Root in the colder Seaſons.

BREYNIUS was the firſt Perſon who ſaw it in *Europe*, flowering in Mrs. *de Flines*'s Garden.

Its natural Soil directs us how to cultivate it; and the beſt Method will be by Roots brought from the Spot where they are natural: if theſe be taken up when the Leaves fade, they will bear to be a long Time out of the Ground. After this it may be encreaſed by Off-ſets.

For its Reception let the following Compoſt be prepared, and mellow'd by frequent Turnings.

Mix two Buſhels of rich Meadow Earth, one Buſhel of Pond Mud, three Pecks of Mould from under a Wood Pile, and one Peck of Marle; or if that cannot be had, of ſoft Chalk broke to pieces the ſame Quantity.

Put into the Bottom of as many Pots as you have Roots, ſeveral Pieces of looſe Gravel, to keep open the Hole for diſcharge of Water, and then fill them up within one third of the Top with the Compoſt.

In the Middle of each Pot place one Root: take Care the Bud be exactly upright, and cover it three Quarters of an Inch with the Mould; ſifting it carefully upon it.

Set theſe Pots in a ſhady Place, and once in five Days give them a little Water.

Let them remain there till the Bud begins to ſhew itſelf above the Surface, unleſs ſevere Weather intervene. Then place them in a more warm and open Situation; and at the Approach of Winter bring them into the Stove. Water them more frequently than before, but a little at a Time, and they will thus be brought to glow in all their Beauty.

Leſs Heat and leſs Care will bring them to flower, but not in their proper Strength, and the Flowers will be few and browniſh.

CHAP. II.

The Care and Management of the Flower-Garden, Green-houſe, and Stove.

LET the Care of the Gardener, and his conſtant Attention to the ſeveral Parts of his Ground, ſave us the Tediouſneſs of Repetition, by going over his Borders in the ſame Manner we have directed in the preceding Weeks; but as the Froſt may now be more dangerous than ever to his Seedling Plants, let him take redoubled Care to defend them.

The choiceſt Kinds we have directed him to ſow in Boxes, and theſe he ſhould now ſet in the Ground; or otherwiſe the Shelter he lays upon the Surface will not prevent the Effect of Froſts thro' their Sides.

Let him chuſe the higheſt and the dryeſt Spot he can, and take Care that it be open to the South. Here let him dig out a Piece of Ground

Jan. capable to receive the Boxes, a full Spade deep: let him ſtrew over the Bottoms ſome Coal Aſhes, with the Cinders among them; and upon a ſlight Bed of theſe ſet in the Boxes.

Let him fill up the Space about the Boxes with dry Mould, mix'd with ſome Sand, and well beat in; and upon the Surface of the Earth in the Boxes, which will be then upon a Level with the Ground, let him ſtrew ſome Pea Straw.

This Conduct will preſerve the Seedlings thro' the moſt ſevere Froſts; and it is not needful except when they are ſevere.

We have directed on a preceding Occaſion, the ſowing ſome of theſe Flower Seeds on warm Borders, in the open Ground. Theſe will require the ſame kind of Care. Let a good Quantity of Straw be thrown upon the Surface, and let a large Parcel of dry Mould be thrown into the Alleys between theſe Beds, if there be ſeveral, or all about the Edges if there be only one. In either Caſe let this additional Mould be carried up to the Level of the Bed; and let it lie a Foot thick round the Sides.

In this Manner the Generality of Seedlings may be preſerved, and raiſed to Perfection without the Trouble that attends the Way in Boxes: but for the more tender and delicate Kinds, that Method is ſtill preferable.

This Week let the Gardener procure a good Quantity of freſh Dung, and throw it carefully up in a Heap to warm gradually. It is to lie about eight Days in this Heap; and will then be fit for the making hot Beds for raiſing the tender Annuals from Seed. This Time of heating with twice well Turning, will make it perfectly fit for the Purpoſe.

The next Care muſt be of the Compoſts, which are to receive particular Kinds, and are ſuited to their natural Condition. Theſe which lie in proper Heaps in ſome waſte Place, muſt be turn'd over and mix'd, and broken very thoroughly.

The Buſineſs thus far done, let the Gardener viſit with due Attention, his Green-houſe and Stove.

In what Manner he is to manage particular Plants we have deliver'd under each Kind, and need not repeat here; but there are ſome general Cautions.

The Seaſon is naturally at the worſt, and requires all the Regard to the Plants that can be ſhewn.

The Green-houſe muſt be kept cloſe, and guarded with Shutters, and Mats in the ſevere Nights; but as this always tends to weaken the Plants, every Opportunity muſt be taken of giveing them Air in the Middle of tolerable Days. Jan.

Where there is a Flue carry'd under the Green-houſe, there muſt be a little Fire uſed to keep the Air in a gentle Warmth at theſe ſevereſt Times; and where this is not the Caſe, ſome very clear Fire muſt be made in a portable Furnace, or ſeveral Wax Candles muſt be kept burning in the very worſt Time: Tallow do not well ſupply their Place.

The Practice in *Holland* is to keep a little Fire in one Corner of the Green-houſe with a few mouldering Turff. We have theſe in ſome of our Fen Countries: they are worth almoſt any Trouble of Carriage for this Purpoſe; and ſomething tolerably like them may be dug in moſt Places where there is boggy Ground.

Theſe will keep a Heat without Offence or Violence ever ſo long: a Couple of them will be mouldering two Days into Aſhes without going entirely out; and a Couple more laid upon the Embers, will keep in the Fire in the ſame Manner. Nothing is ſo fit for this Service of the Green-houſe.

While the Windows are kept cloſe, let the Waterings be very ſparing.

Let all dead Leaves be taken off, and carried out of the Houſe; and whereever there appears any Mouldineſs, let it be carefully and perfectly clear'd off with a Spunge dip'd in warm Water.

Let the ſame Care be taken in caſe of Inſects; only inſtead of warm Water alone, let the Spunge be wetted in a ſtrong and warm Decoction of Wood Soot and Tobacco.

This Week it will be very proper to repair the Bark Bed in the Stove.

One of the fineſt Days that happen muſt be choſe for this Purpoſe; and the Work conducted with Diſpatch and Care.

All the Pots muſt be taken out, and the Bark muſt be carefully ſtirred and laid level. If there want a Supply, a little muſt be added that is in good Condition, and has lain to drain; and the Pots muſt be ſet in carefully and evenly again. This will not only ſet thoſe upright which had been ſettled unevenly, but the Heat of the Bed will be refreſh'd gently by the Motion; and eſpecially if any Addition of freſh Bark have been made, which will be very uſeful at this Seaſon.

All this Time let the Heat of the Air be carefully kept up by the Thermometer.

SECT.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XXII.

For the firſt Week in *FEBRUARY.*

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

I. APENNINE ADONIS.

Feb.

Plate XXII. Fig. 1.

AN elegant, bold, and noble Plant; native of *Europe*, and bearing our Winters without Danger: riſing to a ſmall Height from the Ground, but covered with vaſt Flowers, and thoſe of a moſt ſingular Dignity in Aſpect.

The Botaniſts, for many Ages, have been familiarly acquainted with it; but 'twas not at firſt known by the proper Name.

Moſt have call'd it an *Helleborus:* ALPINUS, a *Buphthalmum.* LINNÆUS, who has refer'd it to the proper Genus, *Adonis*, adds, as its ſpecific Diſtinction, *floribus pentdecapetalis fructu ovato.*

The Root is form'd of numerous thick and black Fibres, ſpreading every Way, and entangling variouſly one among another.

The firſt Leaves are extremely elegant; their Colour is a fine deep green, and their Foot-ſtalks are purple: they are divided in the pinnated Manner; and, what may be call'd the Pinnæ, or diſtinct Leaves, are oblong, pointed, and have ſome Breadth.

The Stalk is round and thick, tho' low. It wou'd be upright, but that the Weight of the Flower is too much for its ſteady Support.

Where it riſes from the Ground 'tis reddiſh; and often there hang about it a few Films of a purpliſh brown. Upward it is of a pale green, with ſome Tinge of yellowiſh; and it is all the Way duſted with little grey tranſparent Globules. Theſe are the Extremities of ſo many round evaneſcent ſecretory Ducts; as the Hairs of other Plants are the more permanent Extremities of theirs. This Uſe of them GUETTARD diſcover'd. LINNÆUS adopts the Opinion; and the Microſcope confirms it.

Feb.

The Leaves on the upper Part of the Stalk have leſs Breadth, and are more irregularly divided than thoſe at its Bottom; but they retain the ſame Tinct only fainter.

The Flower is vaſt; and when the Root has ſtood to get good Strength, and numerous Stalks riſe from it together, the Tuft is crown'd with a continued Head of them, conſpicuous at a Diſtance, and elegant on nearer Examination.

The Bigneſs of the Flower, when the Plant thrives perfectly, is that of the largeſt ſingle Anemone: its Colour perfect gold.

The Cup in which it ſtands is in itſelf beautiful: five elegant oval Leaves compoſe it, and they are of a fine yellowiſh green; a proper Gradation of Nature between the perfect green of the Leaves, and full yellow of the Petals.

The Body of the Flower is form'd of an un-

Feb. certain Number of Petals, uſually twelve or thirteen; when, in the fulleſt Number, fifteen: they are oblong, broad, and irregularly terminated: and whether full expanded, or half blown, they have a moſt ſtriking Appearance.

When fully open'd, the Colour is ſomewhat paler, and more delicate; but when half blown there is a Spirit in the Flower that very well atones for the duſkier Colour.

In the Centre ſtand numerous ſhort Filaments; they form a thick Tuft, and each is top'd by an oblong and ſomewhat crooked Button.

In the Midſt ſtand numerous Rudiments of Seeds, collected into a kind of Head; and on theſe are plac'd pointed and bent Stigmata, to receive the Duſt from thoſe numerous Buttons.

The Fruit is of an oval Form, and is compos'd of naked Seeds, fix'd in five Series to an oblong Receptacle. Their Shape is irregular, angulated, and bent at the Top.

Our Student in this delightful Science, now knows, that to diſcover the Claſs to which this Plant belongs, beſide obſerving the great Number of the Filaments, he muſt trace them to their Origin. He knows that a great Number of Stamina is a Character in common to the *Icoſandria* and *Polyandria*; and that the Place of their Inſertion makes the Difference. They here riſe from the Receptacle: the Plant is therefore of the *polyandrous* Kind; and its numerous Rudiments and Stigmata ſhew it one of that Sub-diviſion, thence named *Polygynia.*

Culture of the APENNINE ADONIS.

The Culture of this elegant Plant we ſhall lay down from Practice; and ſhall tell the ingenious Gardener how he certainly may raiſe it to the moſt full Perfection, becauſe the Method we ſhall lay down has ſo ſucceeded.

As a Native of the *Apennines*, and of the coldeſt Parts of them, for in ſuch it thrives beſt in its wild State. Our Pupil will underſtand that it requires no Stove or Greenhouſe: the open Ground will ſerve it perfectly: and to know the Condition of the moſt proper Soil, he need only be told that it flowers beſt where native, when it has a light but not dry Earth, and a Noon Day's Shade.

For its Soil, let him dig out ſome Paſture-Land from under the Turf on the Side of a Hill, where the Mould is light and mellow, and is accuſtomed to ſome ſettling of Wet.

Let him chuſe for its Place ſome ſmall Spot in the Garden open to the Winds, for their Blaſt favours it; and where the Mid-day Sun is in ſome Degree kept off by Trees. Feb.

Let him take out the Mould here two Foot deep; let him lay on the Bottom a thin Coat of Clay, but not too firmly beaten; upon this let him ſcatter ſome large Gravel, and then pour in his Mould.

This Spot being levelled, will ſerve either to receive the parted Roots from another Place, which ſhould be ſet in the latter End of *Auguſt*, or the Seeds.

The firſt Way is the eaſieſt; but 'tis from the other we are to expect the fineſt Plants.

The Method is this:

If the Gardener have a Correſpondence where it is native, let him procure the Seeds from thence: if otherwiſe, let him ſelect them in this Manner.

When the Plants are in Flower, let him obſerve the ſtrongeſt Root, which he will know by the Number and Height of the Shoots. All theſe let him cut away, except one; and then let him with a Trowel dig up the Ground about the Plant, and give it once in two Days a little Water.

When the Flower has fallen, and the Seeds begin to ſhew themſelves of ſome Bigneſs, let him forbear Watering. All he has then to do, is to watch their ripening. When they are grown to the full Size, and are ſomewhat harden'd, let him cut off the Head carefully, and lay it on a paper'd Shelf.

When the Seeds fall off, let them be wrapp'd up in Paper, and kept till the firſt Week in *September*; then let them be ſown thinly upon the Piece of Ground prepar'd for them as we have directed; and a third of an Inch of lighter Mould ſifted over them.

Let a few Pieces of Furze-Buſh be thrown upon the Bed to prevent Accidents; and in dry Seaſons let a little Water be allow'd it.

After this, when the Plants are up, let ſome Pea-ſtraw be ſcattered over them in hard Weather; and from that Time let them be kept clear from Weeds.

In Spring let them be thin'd, by taking up the weakeſt, where they have riſen too thick; and let theſe be planted out into other Parts of the Garden.

Let the others be left at fifteen Inches Diſtance every Way in the Seed-Bed, and not remov'd afterwards. Thus being allow'd full Room, and kept free from Weeds, they will flower in great Perfection.

2. JUDAS

2. JUDAS TREE.

Plate XXII. Fig. 2.

We follow here our firſt eſtabliſh'd Cuſtom of calling Trees, known to the common Gardeners, by the Names under which they are us'd to hear of them; but we ſhall not leave the Student uninform'd of the more proper.

The Name *Judas Tree* has been given to this from a Fancy of one of the Fathers, that it was upon one of them *Judas* hang'd himſelf. The Vulgar give that Diſtinction to the common Elder; but that is more unreaſonable. All there is for the Foundation of this being the Tree, is, that ſome of the earlieſt Writers ſay he hang'd himſelf upon a *Cercis*.

LINNÆUS has indeed attributed the Name *Cercis* to it; but 'tis from THEOPHRASTUS we are to learn what *Cercis* is; and all he tells us of it, is, that the Seeds are held in Pods.

So uncertain is the Propriety of ſcientific as well as vulgar Names; but when they are appropriated and receiv'd this creates no Error.

All the old Writers call it *Arbor Judæ*, and *Judaica*. — C. BAUHINE, *Siliqua ſylveſtris:* and LINNÆUS, to the Term *Cercis*, which he has made generical for it, adds, as a Diſtinction of the Species, *foliis cordato orbiculatis glabris: Cercis*, with ſmooth rounded Leaves, heart-ſhap'd at the Baſe.

It is a Tree of moderate Growth when properly train'd into Shape; but in its native Wildneſs rather is of the Shrub Form.

The Root ſpreads far: the Trunk is covered with a deep brown Bark, and the young Twigs are purpliſh.

The Branches are not numerous, nor do the Leaves ſtand thick upon them; but their Breadth is conſiderable enough to atone for the Smallneſs of the Account, and they cloath the Head of the Tree very handſomely. There is a Merit in this ſtanding ſo diſtinct, becauſe their Form is the more accurately ſeen, and is very regular and agreeable.

Each has its own long and tender Footſtalk, and this is purpliſh.

The Leaf itſelf is nearly round; indented a little for the Reception of the Footſtalk; and at the oppoſite Part terminated often by a kind of Point: this is the extreme Part of the Middle Rib.

The Colour of the Leaf is a deep green, with a Tinge of blueiſh: and the Veins and Ribs in the new Leaves are red.

Theſe elegant Leaves the Tree ſhews long in all their Beauty; and as the Winds ſport among them, their under Sides occaſionally turn up, and by their greyiſh Hue diverſify the Scene.

The Flowers appear early in Spring, and the Leaves not till ſome Time after their firſt ſhooting. They are extreamly pretty. They riſe on divided Footſtalks from the lower Parts of the Branches; and their Colour is a beautiful red with a Tinge of Crimſon and of purple. Their Form reſembles that of the *papilionaceous* Kind; and the Fruit which ſucceeds them is a Pod. This is long, flat, thin, broad, and of a purpliſh Hue, with ſeveral brown Seeds.

This is the general Aſpect of the Flowers, and Fruit; but the Student, in this pleaſing Science, will not be ſatisfy'd till he has examined them more ſtrictly.

He will find the Cup that receives each Flower, hollow, and riſing on one Side; ſhort, and divided at the Rim into five obtuſe Segments.

Into this Cup are inſerted the Petals, forming the Body of the Flower; and by their Form and Diſpoſition they ſtrongly mimic the *papilionaceous* Kind. There are two Alæ turn'd upwards, and fix'd to the Cup by ſlender Bottoms: one Petal ſhorter than the Alæ, and plac'd under them, forms the Vexillum. Its Shape is roundiſh, with a little hooked End: and below theſe ſtand two others, forming together a Carina of a heart-like Shape, in which are plac'd the Organs of Impregnation, riſing from its Bottom.

The Filaments are ten: they are diſtinct from the Baſe, and they are bent with the Carina: four are longer than the others, and the Style is ſingle.

There is not a Plant in all the Courſe of the Science, which ſo much as this mimics the Characters of the Claſſes to which it does not belong.

The *papilionaceous* Form of the Flower would refer it to the *diadelphous* Claſs; but that all the Filaments are looſe: and altho' theſe are ten, and in the *Tetradynamina* naturally only ſix, yet the Superiority of four ſeems to refer it thither.

LINNÆUS, from the Number and diſtinct Growth of the Filaments, refers it to the *Decandria*; and its ſingle Style places it among the *Monogynia*, the firſt ſubordinate Diſtinction in that Tribe.

The Student, in his ſtrict Examination of the Flower, will find a ſlender Body ſupporting the Rudiment of the Pod: this is the Nectarium. Its Place and Office is ſingular; but it is nothing more.

Culture of the JUDAS TREE.

It is a Native of the warmer Parts of *Europe*: *Spain* and *Italy* abound with it; and there are many Trees of it wild in the South of *France*.

It loves a rich and mellow Soil: it will very well endure our coldeſt Weather in the open Air; and, under good Management, will ripen Seeds with us which will produce good Trees.

This is the beſt Way of propagating them; for a great deal of the Beauty depends upon the regular Growth; and as the Tree naturally runs out into great Wildneſſes, there is no Way to be ſecure of this, but in having it to manage from a Seedling.

Let the Gardener dig up a Piece of Ground in the Seminary, where the Soil is light and not over rich; for the Seeds will very well grow in this, and the Trees will thrive the better for it when they are re-

Feb. remov'd, at four Years Growth into a Soil like that they have in *Italy*.

Upon this Bed let the Seeds be ſcattered thinly, with an even Hand; and let there be half an Inch of the ſame Mould ſifted carefully over them.

The beſt Seeds are thoſe obtained in the Pods from *Spain* or ſome other warm Parts of *Europe*; but if there be any Difficulty in procuring theſe, ſuch as have ripened on our own Trees will do.

Once in three Days let them be gently watered, and they will come up regularly.

The Time of ſowing them is various; ſome doing it as ſoon as they are ripe, and others toward Autumn: but we have found by Experience the Middle of *March* to be vaſtly the beſt Seaſon: the Seeds are promoted in their ſhooting by the natural growing Warmth of Spring, and they get Strength to bear the ſucceeding Winter with a moderate Shelter.

Such as are ſown at other Seaſons, often rot in the Ground for Want of a favourable Temperature of the Air to bring them up; or they require ſo much Shelter in the Winter, that it is difficult to harden them properly the next Spring, but that the late Froſts kill them.

In the Way we direct they will riſe ſoon, and Weeds will come up with them. Let theſe be cleared away from time to time; and as ſoon as it can be ſeen which are the ſtouteſt Plants, let them be thin'd, by taking up the weaker.

When they are thus reduc'd to a proper Diſtance, they muſt have Water once in two or three Days in Summer, and the Mould muſt be frequently and well ſtir'd and broken between them.

In Winter ſome Hoops muſt be placed over the Bed, and a Mat drawn over it in ſharp Weather. This muſt never be ſuffered to remain over the Bed longer than there is Occaſion; and toward the End of Winter it muſt be uſed moſt ſparingly, that the Plants may bear the free Air of Spring uninjured. Feb.

In the laſt Week of the ſucceeding *March*, let a Piece of freſh Earth be dug up, and very well broke in another Part of the Nurſery: let the young Plants be very carefully removed out of their Seed Bed, and ſet immediately in the new Soil at two Foot and an half Diſtance.

Cloſe by each Plant thruſt in a ſtrong Stake, that as the Stem riſes it may be tied up, to ſecure its growing ſtraight.

When the Plants are all in, and the Stakes fixed, bring them gently to their Supports with a Piece of Baſs, and give the whole Bed a gentle Watering.

This muſt be repeated twice a Week in dry Weather. At the Approach of Winter there muſt be ſome Peaſe-ſtraw ſtrown over the Ground, to defend them in ſome Degree from Froſts; and the Shoot muſt be again tied up as it riſes.

In the *February* following, let the Earth be carefully dug between them; and at the ſame Time let the Side-ſhoots, that grow too low, be taken off, and the Head left entire.

This muſt be repeated the ſucceeding Year; and the next after that, they may be tranſplanted into the Places where they are to remain.

The Soil in theſe Places ſhould be ſuch as we have deſcribed, as agreeing beſt with them where they are native; and they will, by this Management, riſe to five and twenty Foot, in a very handſome Form.

The Gardener, thus underſtanding the whole Management of this elegant Tree, will in few Words receive our Directions for others of a like Kind.

3. POLYANTHOUS CROCUS.

Plate XXII. Fig. 3. The Variety of Crocuſes that paint the Borders of every Garden at early Spring are very numerous; and this unqueſtionably is the moſt ſpecious of them all. The Variation in its Tinct is no ſlight Recommendation to this allowed Pre-eminence; but its ſtrongeſt Title is the Number of the Flowers which riſe together from one common Stock.

Let not the Student, while we recommend it for theſe Advantages, place it in an higher Rank in the Science than it deſerves: however luxurious Culture may have encreaſed the natural Number of the Flowers, or ſtained them with different Shades of Colouring, it is no more than Variety of the common Kind, the natural pale Spring Crocus.

This Linnæus diſtinguiſhes from the other Species, by the Addition of *ſpatha univalvi radicali, corollæ tubo longiſſimo*, Crocus with the Scabbard from the Root, formed of a ſingle Piece, and with the Tube of the Flower extremely long.

Under this Diſtinction ſtands the common Spring Crocus in the more accurate Writers; and the preſent ſingular Appearance of it is not diſtinct in Species, but one of the Effects of Culture.

The Root is roundiſh; white within, covered with a brown Skin, and from the Bottom ſends out many Fibres, long, moderately thick and white.

The Leaves are many; and thoſe and the Baſes of the Flowers, with the Scabbard which riſes from this Part, and ſerves them as a Cup, unite in a Manner together, and form one common Body.

Feb.

The Leaves are long and very narrow, they naturally grow in an arched Form, riſing circularly from the Baſe, and drooping at the Point: their Colour is a fine deep green, and each has along the Middle a Line of perfect white all the length.

The Flowers riſe from the Head of this united Body, with long Tubes, which ſerve them as Stalks, and they are large and extremely beautiful. The Cluſter of them from one Head is often eight or ten, and they diſplay themſelves in various Poſitions, ſome upright, ſome drooping inwards, and others turning out; ſo that the whole Tuft repreſents a Noſegay contrived in the moſt artful Manner.

The Body of the Flower conſiſts of ſix Segments riſing from the Tube, and theſe ſo large, that they reſemble Petals.

Their Ground Colour is a greyiſh or pearly white, but they are ſtained and diverſified in the moſt elegant Manner with purple, and with crimſon. The three outer Segments uſually have the Colour deepeſt and in greateſt Quantity. The inner ones are ſometimes perfectly white; often ting'd, but lightly. The Degree of the Colour varies extreamly, but this riſes from Culture; and the Art of the Gardener muſt be employed to make it the ſtrongeſt and moſt lively.

The Student examining this Flower from its Origin, will find it riſes ſhielded by a Scabbard in the Place of a common Cup, and that this conſiſts of a ſingle Piece.

The Tube of the Flower he will find expand gradually till it comes to the Place where it divides into theſe ſix Segments. They are oblong, of a ſomewhat oval Form, and terminate obtuſely.

In the Hollow form'd by this ſtand three upright Filaments, very conſpicuous, and crowned with arrow-headed Buttons. The Style is ſingle, and ſtands in the midſt of theſe; and at its Summit is placed a large and conſpicuous Stigma, or Head, divided into three Parts.

The Seed Veſſel is roundiſh, and marked with three Furrows, containing in three diſtinct Cells many round Seeds.

The Claſs to which the Plant belongs is very obviouſly written in the Flower; the three conſpicuous Filaments refer it to the *Triandria*, and the ſingle Style ſhews it one of the firſt Section of that Tribe the *Monogynia*.

Culture of this Crocus.

We have obſerved already, that this beautiful Plant is no more than a Variety of the common Spring Crocus, in whoſe Flower there riſe from Culture various Tinges and Degrees of Colour in different Diſpoſitions.

Theſe, a ſubſequent Attention to the beſt Methods of raiſing the Plant varies more and more; and the Luxuriance of Nature, ſupported the ſame Way, throws forth the numerous Flowers together.

Feb.

In every Condition it is of the ſame Origin; and is a Native of the mountainous Parts of *Europe*: being of no warmer a Climate than our own; it needs no artificial Warmth to raiſe, or Defence to preſerve it from the Seaſons.

The Parting of the Roots is the common Method of propagating it; and may be needful to have Recourſe to it for the firſt ſtocking of the Ground; but he who imbibes from us the true Spirit of Gardening, will think the Practice very much beneath his farther Notice.

To proceed for ever by parting of Roots is to ſee always the ſame dull Round of Flowers. The commoneſt Kind of Crocus ſerves for the Purpoſes of Science; for in that the Filaments, and all the other eſſential and characteriſtick Parts, are ſeen as obviouſly as in the beſt: but for the Beauty of their Colouring, let the Attention be employed upon the raiſing them from Seeds: this, though ſlow, will be always found the true Method to produce Variety.

This is a Thing neglected by the Generality, and not laid down by common Authors; but we ſhall explain it at large; and the Reader may be aſſured, he will not fail of Succeſs in proſecuting the Methods we direct; becauſe they are the Hiſtory of our own Practice.

The ſowing of the Seeds is the firſt Article, and a great deal depends upon it.

The Way to have fine Flowers is to favour the ripening of theſe; for if they be poor, tho' they contain the Principle of Vegetation, little will be produced of Beauty, or of Value.

Let our Gardener ſelect for his Purpoſe a fine Cluſter of the Plant: the beſt is, that in which the Flowers are moſt numerous, and have the ſtrongeſt Purple.

Let him fix upon this as ſoon as the Flowers are enough open to ſhew their Beauty; and let him take off three or four of the loweſt, leaving only three, or at the moſt four, to blow to Perfection.

Let him give the Plant a little Water every Day; and ſhade it from the Noon Sun continually: this will keep it much longer in Flower, and conſequently the Seeds will ripen gradually.

When the Flower is fallen, let the ſame Care be continued that nothing hurt the Plant: let it have Water moderately once in three Days; clear away all Weeds, and break the Earth round about it with a Trowel, but not too near the main Root.

The firſt Week in *May* the Seeds will be ripe. Let the Head be carefully taken off, and laid upon a paper'd Shelf, and then prepare a Compoſt for ſowing them in this Manner.

Mix together a Barrow of freſh and light Paſture Earth, half a Barrow of Pond Mud, a Buſhel of old Cow Dung, and half a Buſhel of Sand; beat and break all theſe very well together, and ſift the whole through a coarſe Wire Sieve, throwing away the Lumps, which will be principally the worſt Part of the Cow Dung.

Make a Box of rough Boards, a Yard and half long, a Yard broad, and fourteen Inches deep. Bore half a dozen Holes at Diſtances in the Bottom, and cover them with ſome rough Gravel, that the Water may always have free Paſſage. Pour in the Mould, and ſet the Box upon ſome Brick Supports, one Brick Thickneſs above the Ground.

By that Time all this is ready, the Heads will be hardened on the Shelf, and the Seeds ready to fall out of them.

Let them be all clear'd out, and ſpread at a little Diſtance; and after they have lain four Days, and the Mould in the Box is ſettled, level the Surface, and ſcatter them upon it, carefully.

The firſt Week in *June* is the beſt Time for this ſowing. The Seeds muſt be covered a Finger's Breadth with the ſame Compoſt ſifted over them; and the Place where the Box ſtands muſt not be open to the Noon Sun, but the Morning.

Let the Gardener obſerve from time to time the Temper of the Mould; and when it is too dry, give it in an Evening a very gentle Watering: if very hard Rains come, let a Covering be hung over the Box; and let Care be taken to deſtroy all Shoots of Weeds as ſoon as they appear.

At the Approach of Winter, let the Box be removed to a Place where it may have all the Sun it can.

In Spring it muſt be removed into the former Situation, and treated as before. The Trouble is not much, and the Foundation is thus laid for a fine Variety of Flowers. Weeds and Moſs are to be cleared off as they riſe, and the young Plants are to have frequent and very gentle Waterings.

When the Leaves are decayed, let ſome freſh Earth be ſifted over the Roots, about a quarter of an Inch in Thickneſs, and toward Winter let the Box be again removed into its ſunny Situation.

The ſucceeding Summer, when the Leaves are decay'd, let the Mould be all carefully broke and looſen'd in the Box. A Border muſt now be dug up for the Roots; and the beſt Soil is common Garden Mould with ſome freſh Paſture Earth dug in among it. Let as much of this Soil, as will make two Inches in depth, be kept off, and let Lines be drawn lengthwiſe, and acroſs at three Inches Diſtance, and the Earth well broken that lies out.

This Border being ready, let all the Mould from the Box, which was before looſened for that Purpoſe, be carefully ſifted, and the Roots taken out.

Let one of theſe be ſet upright in the Centre of every Square marked upon the Border by theſe Lines; and let the Mould be ſifted upon them, which was left out for that Purpoſe.

Thus let them remain, keeping the Bed clear from Weeds till Spring; and then let the Mould be carefully and gently ſtirred at the Surface, and a quarter of an Inch of freſh ſifted on.

Let the ſame be done in Autumn, when the Leaves are decayed; and the next Year they will return all this Care by a fair Promiſe of fine Flowering.

Thus will be produced an original Stock of the fineſt Kinds; among which there is no doubt of meeting with many new ones: and after this they may be multiplied by parting the Roots. This ſhould be done once in three Years.

Their proper Management then is this. Every Off-ſet muſt be planted in a ſeparate Hole two Inches deep: not made in the common Way with a Dibble, for that hardens the Earth about them; but with a Trowel, that the Mould may lie looſe: thoſe which are intended to produce Off-ſets ſhould be ſuffered to remain in the Ground the full Time we have mentioned. The others ſhould be taken up when the Leaves are decayed, and planted again in *September*.

4. GREAT-FLOWER'D PULSATILLA.

Plate XXII. Fig. 4.

It is not common for a Native of our own Country to make a Figure in our Gardens; but this is one of a few Inſtances that Nature has not denied us Plants as ſpecious in their Aſpect, as thoſe we bring from *Africa* or *India*.

The *Pulſatilla*, which covers with its living Purple whole Spots of the *Gogmagog* Hills near *Cambridge*, and *Bernak* Heath and *Lowthorp* Common near *Stamford*; which paints the dry Paſtures of *Leadſtone-hall* near *Pontefract* *, and glows, though leſs regarded, on the rugged Hills of *Wales*, and the cold northern Mountains, is the ſame Plant we ſee in Gardens under that Name, and which deſerves to be ſeen there oftener: equal to the Generality of the Anemonies, to whoſe Family indeed it belongs; from the Effect of good Culture varying its Colour through all the Changes of purple, violet and crimſon, into fleſhy white; and admitting even the Grace and Glory of accumulated Petals, in what we call the double Form.

'Tis in the ſingle State we here ſpeak of it; as the Flower ſhews itſelf in early Spring in our Gardens, altered in nothing from its native wild State, but that the good Soil makes the Petals larger.

Its common Name with us is the *Paſque Flower*.

Authors know it under the Title of *Pulſa-*

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* *Ray*'s Synopſis of *Britiſh* Plants, Ed. 3. *p.* 260.

tilla; to which BAUHINE adds, as its farther Diſtinction, *folio craſſore & majore flore.*

LINNÆUS, more correct than theſe early Writers, in his Characters does not admit this as a diſtinct Genus. Its eſſential Marks are the ſame with thoſe of the *Anemone*, and he refers it to that kind; adding as the Diſtinction, *Pedunculo involucrato petalis rectis, foliis bipinnatis:* Bipinnate leaved *Anemone*, with a leafy Involucrum on the Top of the Stalk, and with ſtrait Petals.

The Involucrum, ſerving as a Cup to the Flower, has been us'd as a Generical Diſtinction; and with the Addition of the Hairyneſs and Tails of the Seeds, conſtitutes the ſeparate Character of *Pulſatilla.* LINNÆUS regards theſe only as Diſtinctions of the Species; and VAN ROYEN, DALIBARD, and others, follow him.

The Root is long and thick; black on the Surface, ſplit into many Heads, and tufted on the Crown of each, with the fine Fibres of decay'd Leaves; bitter to the Taſte, and acrid.

The Leaves are of a pale hoary green, and are ſupported on long weak Footſtalks, naturally of a deep red toward the Ground, and paler upwards. Each Leaf is divided and ſubdivided in the pinnated Manner; and the Segments are ſmall and narrow.

The Flower-ſtalks riſe among theſe, two or more from every Head of the Root; ſo that when the Plant is carefully manag'd, it is not uncommon to ſee a Cluſter of eight or ten burſting out in their full Glory together.

There are no Leaves upon this Stalk, except the Involucrum of the Flower, plac'd at its Top, be call'd by that Name.

Its Colour is purple at the Baſe, of a whitiſh green upwards; and it is hollow, light, and hairy. Three or four Inches is its natural Height when crown'd with the Flower; but when the Seeds are ripening it grows taller: this is the Proviſion of Nature for giving them to the Winds.

Each Flower is the Load of one of theſe Stalks; and notwithſtanding their Thickneſs, it is more than they are able to ſupport well erect.

The leafy Involucrum riſes with a firm Subſtance from the Rind of the Stalk, and is divided into numerous very narrow and long Segments, which ſpread every way from this circular Baſe: theſe are of a whitiſh green, and covered with a thick grey hairy Down.

This ſhields the Baſe of the Flower, which riſes in its hollow Boſom from the Summit of the Stalk, and is not leſs ſingular than beautiful.

Its Bigneſs is equal to that of the larger ſingle Anemonies: its Colour a moſt elegant Violet purple, ſhining with a peculiar Smoothneſs and Delicacy on the Inſide, while the whole outer Part or Back is hairy.

The Body of the Flower is compos'd of ſix Petals: three of theſe ſtand more inward than the others, and are of a deeper Tinge. The other three are a little more outward and paler. 'Tis not the Effect of Light and Shade, tho' correſpondent with it, but the true Tinct of the Flower. The Petals are oblong, broad, and pointed.

In the Centre of the Flower ſtand numerous ſhort Filaments, crown'd with upright Buttons, which ſeem compoſed each of two well connected Parts.

In the Midſt of this Tuft of Filaments appear the Rudiments of the Seeds. They are numerous, ſhort, and collected into an oval Head, and they have pointed Styles terminated by obtuſe Stigmata.

This is the Structure of the Flower of the Pulſatilla; from which the Student will determine as he thinks beſt of LINNÆUS, who has arranged it in the ſame Genus with the Anemone; and will ſee at once upon tracing theſe Filaments to the Baſe, that they ariſe from the Receptacle, and that the Plant is of the Polyandrous Tribe.

The Number of the Styles correſpondent to that of the Rudiments of the Seeds, ſhews it alſo to be one of the *Polygynia:* the Seeds follow in a naked Head, and are hairy, and terminated by a Kind of Tails.

Culture of this PULSATILLA.

No Plant can be better adapted for the Gardener's obtaining Credit from its Culture than the *Pulſatilla.*

There can require no Care for keeping alive in cultivated Ground, an Herb that ſtands the bleak Air in our Fields, and lives and thrives upon the moſt barren Hills.

This is all the common Poſſeſſor of the Plant regards, and his Neglect leaves it in a poor Condition; but, under the Hand of Induſtry, conducted by well-founded Knowledge in Gardening, there may, with little Trouble, be rais'd from its Seeds, a thouſand elegant Varieties: it will diſcloſe as many Colours as the Peacock Anemone, and cluſter its double Leaves as thick as the *Byzantine* Crowfoot.

Let the Soil be ſuch as it is found to love beſt in its wild Nature, only a little more enrich'd; but let the Compoſt wherein it is rais'd from Seed be lighter.

For theſe two Purpoſes, mix firſt a good Quantity of light Paſture Mould, taken from a hilly but not barren Cloſe, with about one fifth Part of old Cow-dung; and to a Load of this add two Buſhels of ſoft Chalk.

Let theſe be well broke and mix'd together; and then expos'd to the Air in a Heap, turning them once in three Months all the Time the Seedlings are growing.

Nail up a Box of rough Boards, and fill it with ſome of this Compoſt, adding firſt to each Buſhel half a Peck of Sand. Lay the Surface level in the Box, and keep out a ſmall Quantity for covering the Seeds.

This is all the particular Care. The reſt is but a Repetition of what we have directed in the preceding Article.

The Seeds muſt be ſaved from a fine ſtrong Plant, and they ſhould be laid three Weeks upon a papered Shelf to harden.

After this, they muſt be ſcattered over the Mould in the Box, and half a quarter of an Inch of the ſame Compoſt ſifted over them.

The Heap of Compoſt muſt be formed into a Bed for the Reception of the Roots, when of a Size, to be ready for their firſt Flowering; and by this Management, the Gardener will ſee, inſtead of the ſimple violet Pulſatilla of others, his new Bed decorated with vaſt Flowers, red, white, crimſon and purple, doubled within, and fring'd at the Edges.

From the beſt of theſe he ſhould ſave Seeds for his ſucceeding Sowing; and by a Succeſſion of Care in this Kind, he may depend upon a Number of new Flowers; and theſe being raiſed from a Stock too much neglected by others, his Produce will have Novelty as well as Beauty.

5. The GARDEN CORNELL.

Plate XXII. Fig. 5.

The Gardener who has taken up the Names of Trees from ignorant Cuſtom, is to be told we write here of that he knows, by the Title of Cornelian Cherry.

Its large red Fruit has obtained it that Name, but the Reſemblance is only ſuch as could have affected the Ignorant, for the Fruits are altogether different in Structure.

'Tis only in common Acceptation it has this Name: no Author calls it *Ceraſus*. It ſtands recorded in them all, under the Title *Cornus*, with the Addition of *mas* and *hortenſis*.

The proper *Engliſh* of this Word is *Cornell*, and it obtained the firſt Epithet from Fancy, the latter, from its having a common Place in Gardens.

Linnæus more accurate in his Diſtinctions, calls it, *Cornus arborea umbellis involucrum æquantibus*. Tree Cornell, with Umbels equaling the Involucrum: they always at leaſt do this, and when well manag'd, far exceed them.

The Tree grows to a moderate Height, and naturally ſpreads into a Multitude of irregular Branches.

Theſe it is the Gardener's Buſineſs to reſtrain while young, and it will make a good Head, and whether in Flower or Fruit no inconſiderable Figure.

The Trunk is covered with a pale brown Bark, and the young Twigs are of a bloody Purple.

On theſe early in Spring appear the Flowers, before the Leaves burſt forth, and they cover them at ſmall Diſtances in agreeable Tufts, like Umbells.

Each of theſe is a Cluſter of Twenty, or more Flowers, ſupported on a ſlender Stalk, and ſpread out handſomely.

The Flowers have alſo each its ſeparate Footſtalk; and at the Baſe of theſe, where they adhere to the Top of the main Stalk, ſtands the Involucrum, or general Cup.

This is compoſed of four oblong, broad, and ſomewhat oval Leaves, thin in their Subſtance, and in Colour naturally yellowiſh, but ſtain'd in various Degrees with Purple.

Two of theſe four Leaves are ſmaller, a Cup, and two larger, and the Pairs ſtand oppoſite. The Flowers themſelves riſe from the Hollow of this Cup, on very ſlender Footſtalks.

Each has beſide this general Involucrum, a Cup, and this is very ſmall and divided by five Dents upon the Edge: this reſts upon the Rudiment of the Fruit.

The Body of the Flower is formed of four oblong Petals; their Colour is naturally a faint yellow, but they are alſo ſometimes ting'd with Purple.

After theſe are fallen, appear the Leaves, and the Fruit gradually ripens.

The Leaves are oblong, conſiderably broad, and undivided at the Edges, and ribb'd with high Veins.

The Fruit is oblong, and umbillicated; in Colour, naturally red; but ſometimes yellow, and ſometimes whitiſh.

When ripe, it is of a ſub-acid and ſomewhat auſtere Taſte, but not unpleaſant.

To know the Claſs to which this Tree belongs, the Student muſt examine a Flower ſeparately. He will find in it four Filaments and a ſingle Style, and he will thence know it is one of the *tetrandria monogynia*.

Culture of the Cornell.

It is a native of the warm Parts of *Europe*, and will grow freely in our Gardens. The beſt Way of propagating it is by Layers; theſe take Root readily, and in one Seaſon will be fit to remove, and in a few Years more will bear Fruit.

The Colour and Singularity of this, are its greateſt Recommendation; but ſome are fond of it in Tarts, the Sugar much improving its auſtere Flavour.

Apennine Adonis

Judas Tree

Polyanthous Crocus

Great flowerd Pulsatilla

The Garden Cornel

Tree Houseleek

6. TREE HOUSELICK.

Plate XXII. Fig. 6. This is a Plant very common in our Green-houſes, and very well deſerving its Place there, even if it never flower'd, for the Beauty and regular Diſpoſition of its Leaves: but it flowers alſo in a Manner ſufficiently ſingular.

Moſt of the Botanical Writers treat of it, naming it after Clusius, *Sedum majus legitimum*; others *Sedum Arboreſcens*: and Caspar Bauhine by a Title that might miſlead a young Botaniſt, *Sedum majus Arboreſcens floſculis candidis*; the Flowers indeed are yellow.

Linnæus, who has happily divided the old *Genus Sedum* into two principal Kinds, retains this Plant among the *Sempervivums*, ranking it with the common great Houſelick. He adds, for the Diſtinction of the Species, *Caule Arboreſcente lævi ramoſo:* Tree *Sempervivum* with a ſmooth branched Stem.

The Root is thick and fibrous: the main Stem is of a pale brown, ſoft, and divided into many ſtraggling and altogether irregular Branches.

The Leaves grow in very beautiful, regular and round Series at the Extremities of all the Branches; they are oblong, ſhaped ſomewhat like a Tongue, and of a fine freſh green. They repreſent in ſome degree ſo many green Roſes from their regular Growth.

The Flowers are inconſiderable in Size, but very numerous; they are of a pale yellow Colour, and of a ſtarry Form, and they ſtand upon divided ſlender Branches.

Each Flower has its little Cup broke at the Edge into twelve Segments: the Petals which compoſe its Body are alſo twelve; oblong and pointed; the Filaments are twelve, naturally, but they ſometimes much exceed that Number; and the Styles from the Rudiment of the Fruit are naturally of the ſame Account.

The Student will hence know the Plant to be one of the *Dodecandria Polyginia*.

Culture of this Tree Houselick.

This is a Native of the *Greek* Iſlands, and with us a common Green-houſe Plant. The Cuttings grow freely, and it requires only the uſual Care of others in the ſame Place.

* * *

CHAP. II.

The Management of the Flower-Garden.

LET our Gardener continue, throughout his whole Ground, the Care we have directed the preceding Weeks.

For Fear of Accidents among his Seedlings, let him ſow this Week freſh Quantities.

The Polyanthus and the Auricula Seed will yet grow very well, and he may venture either upon a well choſen Spot of common Ground; managing the young Plants when they riſe, as directed for the others.

For thoſe Seeds which are ſown upon the open Ground, we would adviſe only the lighteſt Covering of common Garden Mould: half a Straw's Breadth is ſufficient; for if it covered to any Depth they ſhoot ſlowly, and the ſucceeding Heat kills the firſt Fibres.

Let the Coverings be yet kept in Readineſs for ſheltering the tendereſt Flower Beds in cold Weather; but let them have Air and Sun, when any can be given them, for all their Beauty will depend upon it.

When the due Care is taken here, let the Gardener work upon his Borders in general. We directed him to have them clean and handſome at the Approach of Winter; but in the worſt Seaſons ſome Weeds will ſpring up: theſe muſt be now deſtroyed, and the Surface left clean for the ſucceeding Shoots.

It is very ſerviceable alſo to break the Top of the Mould to promote that welcome Growth; but this muſt be done with the greateſt Care, leſt the Shoots of thoſe Plants which are moſt forward be broke by the Inſtruments.

No Perſon ſhould be entruſted to hoe the Borders at this Seaſon, but he who planted the Roots in them: he will know where they are, and how to ſpare them; and by his careful Operation, both Purpoſes will be anſwered at once, the Weeds deſtroyed, and the Surface broken.

When there is a new Gardener, who cannot know the Places of the Roots, let this hoeing be defer'd: let the Plants riſe, tho' the Weeds riſe with them, before any Attempt is made to deſtroy them; and then let them be cleared away by Hand.

As ſoon as the Ground is clean'd, and ſtirred at the Surface, let a ſmall Quantity of very rich Mould be ſifted over the Roots, and thus let them be left to make their Shoot.

Wherever Roſes, Honeyſuckles, or other ſuch ſmall flowering Shrubs as are uſed to have their Place in Borders, are wanting, let them be now brought in. Great Care muſt be taken in planting them, or they will make but a poor Appearance in the ſucceeding Summer; but with due Management they will almoſt equal ſuch as are of more ſtanding.

The Ground muſt be opened to a due Depth, and a Quantity of well wrought Mould left under the Roots. The Hole muſt be conſiderably bigger than the Roots can fill; and when the Shrub is ſet upright, a firm Stake muſt be drove in near it, and the Opening filled in carefully with well broken Mould. The Stem is then to be tied up to the Stake, and too much Head muſt not be left.

A gentle Watering muſt be given as ſoon as the Shrub is planted; and repeated every other Morning: and the Ground round about the Stem muſt be covered with a little fine Hay, and two or three Bricks laid over it to keep it down. This will preſerve the Mould from the Effect of Froſt, and the Shrub will ſtrike out its new Roots gradually and ſafely.

We laſt Week directed our Gardener to throw up ſome Dung in an Heap, for making hot Beds for his annual Plants. If he have followed our Directions, about the Middle of this Week the Dung will be fit for Uſe.

Let the Bed be now made up; according to the Directions we gave for the Hot-bed in the Kitchen Garden: ſhaking out the longeſt of the Litter from among the Dung firſt; covering this all the Way up with ſuch as is ſhorter, till the Top has only a Coat of pure Dung, with little or no Litter among it.

Let this all the Way be beat down and well levell'd: and by this Means it will be fit to receive the Mould in Time, and to bring the Plants forward ſo early, that they will not only come into Flower ſoon in Autumn, but will ripen their Seeds.

This is a great Article, for the ſucceeding Year's Bloom depends upon it; and nothing does ſo well for the ſecuring Succeſs in it, as this early Preparation of the Bed.

For the Particulars we refer to our laſt Number; and in the next we ſhall give the Method of ſowing and raiſing the Plants upon it.

SECT. II.

The Buſineſs of the SEMINARY, *for this Week.*

THE Seaſon of ſowing many flowering Plants in the open Ground is approaching, and the Borders ſhould be now prepared to receive them.

Let two or three Pieces in different Parts of the Seminary be dug up, and the Mould well broken and thrown in Ridges, Eaſt and Weſt, to receive the Benefit of the Air.

While the Soil is mellowing here, let another Piece be dug up for the immediate Reception of Layers of ſeveral hardy Trees. Such as were not rooted ſufficiently at Autumn, may be taken off now; for even in Winter they make ſome Shoots, and they ſhould be planted, with the ſame Care we directed for the flowering Shrubs; at about two Foot Diſtance.

Here they are to ſtand three, four or more Years, according to their Nature, to be well furniſhed with Roots, and of a due Height for bringing into the Places where they are to remain.

Sow the Seeds and Fruits of many of the hardy Shrubs this Week. Let the Earth be well broke to receive them, and let them be carefully covered. Throw ſome Pieces of Furze Buſh over the Ground when they are in; and bait four or more Traps for Mice, placing them all about the Spot.

SECT. III.

POMONA, or the FRUIT-GARDEN.

LET the Gardener look over thoſe Stocks he has budded the preceding Summer. If he have cut off the Heads of them already, let him ſee that the Sap from the Wound do not run upon the Bud.

Thoſe which have not been cut off before, he muſt cut now; and as this is the principal Danger, let it be guarded againſt in the Manner of cutting. The proper Place is a full Hand's Breadth above the Bud, and the Cut ſhould be made ſloping backwards, to prevent the Sap from getting at the Bud.

Let the Gardener now go over the Eſpaliers he repair'd according to our preceding Directions, and ſee whether every thing keep firm. Whereever a Bough is looſe, this is the Time to faſten it, for after this Week the Buds will be coming forward, and nothing can be done afterwards without injuring the Trees.

Let great Care be taken of the Strawberry Pots, that are planted in the Hot-bed for an early Crop; they will be now full of Bloom, and without due Care this is all they will ſhew. The great Danger of this Plant is at the Time of ſetting the Fruit.

Every Day the Plants muſt be water'd; and about Noon, when the Weather will any way permit, Air muſt be freely let in to them. When the Days are leſs favourable, the Glaſſes ſhould ſtill be raiſed for a little Time, at the beſt Hours, and a Cloth hung down from them to cover the Opening: this, though it keeps off the Force of the Cold, will yet admit ſome Air.

Without a due Attention at this Time, all the former Care will be thrown away; and a fine Shew of Bloſſoms not produce a Handful of Fruit.

Take Care to open the Fig-Trees, which have been ſhelter'd according to our Directions in the Middle of every tolerable Day. They muſt ſoon be left open entirely, and as they are made tender, by the Defence they have had during the Winter, if they be not carefully hardened now, they will be deſtroy'd.

Let a Piece of Ground be dug in a ſecure and well defended Place, for the ſowing the Stones of Plums and other hardy Fruit; for raiſing Stocks for the future Service of Budding and Grafting: a Proviſion of the ſame Kind we have directed alſo to be made in the Seminary; and the Intent in ſowing them in this Place is to be ſecure of ſo needful an Article as a Supply.

They are liable to various Accidents; and even the Deſtruction by Vermin, is alone a ſufficient Occaſion for this Caution; that if they from any Accident fail in one Place, they may be had from the other.

They will take up little Room, wherever they are ſowed, and they are no Blemiſh if ſeen; therefore, never let a Year paſs, without ſowing a ſmall Quantity of the proper Kinds; for it is better to deſtroy them Twenty Years, than want them one.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

DIG up a freſh Piece of Ground for Beans and another for Peaſe. Theſe Sowings ſhould be very frequent; there is but a ſhort Time for each of the Plants, from their beginning to bear for gathering, and their being too old for Delicacy.

'Tis therefore the careful Gardener ſhould repeat theſe Sowings, that as one Crop goes off, another may juſt come into bearing.

Let him proportion the Quantity to the Demand; and there will be no Waſte either of Labour or its Products.

He knows what Piece of Ground he ſhould ſow for a Spring-Crop: and all we direct is, that he would do it at ſeveral Times, not all at once.

Let him chuſe alſo the proper Kinds for theſe ſeveral Occaſions. The ſmaller Beans and Peaſe are the only Sorts to be truſted in the earlier Sowings, but the Windſor-Bean is the beſt Kind for this and the laſt; and the Morotta and other large Peaſe.

Prepare a common Hot-bed for Kidney-Beans, and cover it well with Mould, three Inches thicker than in the common Way; and when the Heat is moderate, plant the Dwarf white Kind; this will not run into Stalk, but bears excellently at a ſmall Height.

All poſſible Care muſt be taken to give theſe Plants Air as they come up, or the Beans will be ill taſted; they muſt alſo be moderately watered at Times.

Chuſe a warm Piece of the Ground, where the Mould is rich, and add to that Quality, by ſcattering over it a good Quantity of Dung from an old Hot-bed: dig this well in; break the Mould perfectly; and upon this ſow ſome Celeri Seed.

The Piece ſhould not be large that is ſown with it at this Time; but it is a very eſſential Crop: it comes in at a fine Seaſon; and tho' it will not continue long in Order, yet while it does, nothing is ſuperior to it.

What we have directed to be done with Reſpect of Beans and Peaſe, muſt alſo be obſerved in the Cucumber Crops.

Accidents are very apt to befal the young Plants; and the Gardener who acts upon our Principles of Security, muſt be provided with freſh Quantities to ſupply their Places.

For that Purpoſe, let him, toward the End of this Week, ſow a little freſh Seed; and repeat the ſame, from this Time, once in ten Days. The Plants will be ready for the Purpoſe we have nam'd, if they ſhould be wanted; if not, they will be preſerv'd growing with a very little Trouble for ſucceſſive Crops.

The Care neceſſary to be taken of thoſe in the growing Condition, muſt be continued ſtrictly according to our preceding Directions. See that they keep cover'd with Mould very nearly up to the Leaves; and wherever it has fallen away, carefully draw up ſome freſh.

Keep up a good growing Heat in the Bed, and let there be Water always ready warm'd in it, to give them in ſmall Quantities as they have Occaſion.

In the Middle of the Day admit a little Air; ſhelter them carefully at Night; and frequently turn and wipe the Glaſſes.

Dig up a good Piece of Ground for Carrots and Parſnips, turn it up two Spades Depth, and break it well: it will greatly aſſiſt this Crop to dig in a good Quantity of old and thoroughly rotted Dung mix'd with Sand, and to blend them very carefully together.

Nothing but very old Dung will do for this; for if ſuch as is newer ſhould be uſed, the Carrots will be ill-taſted and Worm-eaten.

Such as comes from an old Hot-Bed, and is perfectly decay'd, is beſt; and with this Aſſiſtance the Carrots will not fail to grow with a ſtrong, ſingle, and ſtrait Root, without ſplitting or ſhooting ſideways; and they will be tender and well taſted.

More depends upon this Management than would eaſily be thought: there is no other Way to bring this excellent Root to its full Perfection.

In Gardens, as commonly manag'd, Carrots are rank, tho' tender; and in Fields they are ſweet, but apt to be hard: this Management is the only Method of bringing them to have the Advantages of both theſe Cultures, without the Diſadvantages of either. They will thus have the Sweetneſs of the Field, and the Tenderneſs of the Garden Carrot.

Let the Surface of this Piece of Ground be levelled; then mix with the Seeds a good Quantity of Sand; and chuſing a calm Day, ſcatter them as equally as poſſible over the Ground. This Care will prevent their riſing in the uſual irregular Manner in Cluſters in ſome Places, with great Vacancies between.

When all the Seed is on, tread over the Ground, and then rake it in. Obſerve when they come up; for the Weeds will riſe with them.

As ſoon as they have a little Strength, let them be thin'd and clear'd from the Weeds that are among them.

In ſmall Pieces of Ground this is beſt done by Hand, becauſe the worſt Plants can be ſo taken up, and the beſt left: in larger Quantities the Hoe is commonly us'd.

Which ever be the Method, the Plants ſhould be left at about five Inches Diſtance.

This will anſwer very well for thoſe which are intended to be taken up young; but if they are for growing to the full Size, they muſt, about three Weeks after, be clear'd of Weeds again, and then thin'd to the Diſtance of eight or nine Inches.

After this, the Ground being kept clear from Weeds, they will make their own Way to Perfection; and will not fail to have their full fine Flavour.

E D E N:

A

COMPLEAT BODY of GARDENING.

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NUMBER XXIII.

For the ſecond Week in *FEBRUARY.*

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SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Flowers and curious Plants now in their Perfection.

1. GREAT FLOWERED SNOW DROP.

Feb.

Plate XXIII. Fig. 1.

WE in this, as in former Inſtances, call Plants familiarly known by their common Names; informing the Student before we proceed to the Deſcription, what is the more proper Title.

In our eighteenth Number, treating of that earlier Flower the common Snow Drop, we obſerv'd that ſeveral others of a different Genus, were join'd to it by the common *Engliſh* Name.

The Plants we mention here, and under the ſucceeding Head, are the two principal: they are called as that Snow Drop, and bulbous Violet; but from the different Characters in their Flowers, LINNÆUS has arrang'd them under diſtinct Genera; and naming the firſt *Galanthus*, calls theſe *Leucoiums*.

The earlier Writers were well acquainted with this Species. C. BAUHINE calls it *Leucoium Bulboſum vulgare*. LINNÆUS continuing the Name *Leucoium*, adds, as the Diſtinction of the Species, *Spatha uniflora ſtylo Clavato*, ſingle flower'd Leucoium with a clavated Style.

The Root is a large bulb, white within, covered with a brown outer Rind, and ſending Fibres from the Baſe; its Juice is ſlimy, and diſagreeable to the Taſte.

The Leaves riſe ſix or eight from each Root, envelop'd with a whitiſh Film at their Bottoms, and they are long, moderately broad, obtuſe at the End, and of a very fine green.

Feb.

The Stalks riſe to ten Inches in Height; they are of a paler green than the Leaves, and ſomewhat edg'd; two or three riſe from each good Root, but each is terminated by a ſingle Flower. This is at firſt wrap'd in a Scabbard, which ſerves it as a kind of Cup; and is thin and whitiſh in the Middle, and thicker and green at the Edges.

When this burſts appears the Flower, large, and drooping, from the Slenderneſs of its Footſtalk. The Colour is Snow white throughout, except at the Tips of the Petals, where there is on each a Spot of very beautiful green.

The Flower is follow'd by a roundiſh Seed Veſſel, mark'd with three Furrows, and containing in three diſtinct Cells numerous round Seeds.

To know its Claſs let the Student examine the Flower diſtinctly. He will perceive its Scabbard burſts at the Side to give it Paſſage, and then after a little Time begins to wither: it has no other Cup. It is compos'd of ſix broad Petals, which unite at their Baſes, and have pointed Ends, the whole ſtanding in a roundiſh Manner, and repreſenting a Bell.

In the Hollow of this Flower are placed ſix ſhort Filaments, crown'd with oblong quadrangular Buttons; and in the Midſt of them a ſingle Style, ſmall at the Bottom, and thicker upwards: This is the Shape expreſs'd by the Term clavated, and it is terminated by a long fine Stigma.

The ſix Filaments and ſingle Style ſhew the Plant to be one of the *Hexandria Monogynia* of LINNÆUS; the ſixth Claſs of that Author, and its firſt Section.

Culture of the GREAT FLOWERED SNOW DROP.

The Plant is a Native of the Swiſs Meadows, and thrives beſt where it has ſome Moiſture, and not too much Sun; this ſhews its proper Culture. No Defence is needed for it againſt our Winters: it may be planted in the open Ground, and its beſt Soil will be pure Meadow Earth.

Let the common Mould of a Border be dug out, and its Place ſupply'd with good black Earth from under the Turf in a fertile Meadow; and let this Border be ſituated in an open Part of the Garden, facing the Eaſt, that the Plant may have the Morning Sun, and no more.

Let this Border be ſtocked with Off-ſets from ſome old Roots, and let them be planted in the Beginning of *September* two Inches and a half deep; and at ten Inches Diſtance.

This is the Method of firſt ſtocking a Garden; but let there be alſo a Supply from Seed. For this Purpoſe let the Seeds of the beſt Flowers be ſaved with Care, and in the latter End of *Auguſt* let them be ſown upon the two Ends of the ſame Border where the Off-ſets are placed. They ſhould be ſcatter'd at two Inches Diſtance, and covered a Straws-breadth with Mould.

Here they will riſe without any farther Care than a little watering in dry Weather; and being kept clear from Weeds: and thus there will be a riſing Supply while the firſt planted Sets are flowering. There is nothing amiſs in the Appearance of the Seedlings, and as this Soil and Aſpect in which we have directed for the others, will beſt raiſe theſe; ſo there is no Occaſion for a ſeparate Trouble.

Theſe Seedlings will, according to the Favourableneſs of the Soil, Situation, and other Accidents, flower the third Year, or a Seaſon ſooner or later. There will be ſome Varieties among them, and ſome Luxuriances. I have ſeen two or three Flowers upon one Stalk, as *Cluſius*, tho' ſcarce credited, deſcribes them: the Student will hence ſee that *Spatha uniflora*, tho' a general, is not an unalterable Character.

The Number of Petals will alſo be encreaſed to eight or ten on ſome Plants, and in others they will be truly double. This is the Advantage of raiſing Flowers from Seed; and in all Kinds it perfectly anſwers the Trouble.

Theſe Seedlings when they have once flower'd, are to be treated with Care according to their Value. The beſt Kinds are to be planted at the Depth and Diſtance we have directed for the Off-ſets: and all the Care that is afterwards required for them is to keep the Ground clear from Weeds; and annually to take up the Roots when the Leaves are decay'd, which will be in the Beginning of *June*; and keep them in Paper Bags in an airy Place till *September*: then planting them again in a Border in the ſame Situation, but with freſh Mould.

The ſame Border may ſerve many Years, but freſh Earth ſhould be brought in for every Plantation. This will keep the Plants in Vigour, and they will much exceed the Thought of ſuch as have not ſeen them treated with ſuch Care.

After this ſome Roots are to be left for Off-ſets, not taken out of the Ground as the others; and each Year the fineſt Flowers ſhould be marked for Seed. This Way every Seaſon will improve the Plants: and it is no ſmall Praiſe to the Gardener to raiſe the moſt ſlight to Excellence.

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2. MANY FLOWERED SNOW DROP.

Plate XXIII. Fig. 2.

We adopt in this Caſe, as in the former, the common Name, for the Gardener's firſt Information of what Plant we mean; but are to tell him this is as improperly as the preceding, ranked under one Name with the common little Snow Drop; being of the diſtinct Genus *Leucoium.*

The Writers on Botany, in general, have been acquainted with the Plant, and C. BAUHINE has named it, *Leucoium bulboſum majus ſive multiflorum.*

LINNÆUS has done this Author honour, by adopting his Character of the Plant, tho' he expreſſes it in the more modern Terms. He calls this *Leucoium Spatha multiflora, Stylo filiformi*, many flower'd Leucoium, with a Thread like Style.

Our Reader remembers what we have juſt ſaid of the Style of the other, and will thence ſee the Strength of this Diſtinction.

We have placed it next the preceding, to give the Student in this pleaſing Science, a juſt Idea of their Difference, which does not conſiſt alone in the Number of the Flowers, but in their Size and Diſpoſition.

The Root is large and round, and is cover'd with a whitiſh Membrane. The Leaves are long, and of conſiderable Breadth, ſharp pointed, and of a fine deep green, with a ſlight Tinge of blueiſh.

The Stalk is thick, naked, hollow; of the ſame Colour with the Leaves, but paler; and at its Top appears at firſt a ſwoln Head; a Scabbard containing the Flowers.

This burſting on the inner Side they throw themſelves out three or four from each Head. They have long and very ſlender Foot-ſtalks, and their Weight being too much for theſe tender Supports to carry erect, hangs them drooping. They are form'd like little Bells; and in Colour are of a perfect ſnowy white.

Each is compoſed of ſix broad Petals, which unite at the Baſe; and within theſe ſtand as in the other, ſix Filaments and a ſingle Style, but this is ſlender, and not clavated as in that.

This Plant, as a Species of the ſame Genus, evidently belongs to the ſame Claſs with the laſt, the *Hexandria Monogynia*; and being a Native of the ſame Parts of *Europe*, and found in the ſame kind of Soil and Situation, nothing particular is required in its Culture.

The ſame Directions we have given for the laſt ſtand good for this, and it will ſo be raiſed to the ſame Perfection.

3. GIANT ASCLEPIAS.

Plate XXIII. Fig. 3.

This is a Plant long known to the botanical Students, and as long celebrated for its Singularity and Beauty.

Moſt Authors rank it among the *Apocynums*; but Linnæus, who has very accurately eſtabliſh'd the Diſtinctions between the *Apocynum* and *Aſclepias*, refers it to the latter of thoſe Genera.

Plukenet, and the Generality of thoſe who have follow'd him, call it *Apocynum erectum majus latifolium indicum.*

Linnæus referring it to the *Aſclepias*, adds, as the Diſtinction of the Species, *foliis amplexecaultibus oblongo ovatis: Aſclepias*, with oblong oval Leaves embracing the Stalk. The common Name by which our Gardeners know it is, *Beidel oſſar.*

Alpinus deſcribes it under this Title among his *Ægyptian* Plants; and the Strangeneſs of the Sound has implanted it on vulgar Memories; while thoſe Names which have known and diſtinctive Meanings, if underſtood, are ſoon forgotten.

The Root ſpreads under the Surface, and has innumerable Fibres. The Stalk is firm, tough, upright, and ſeven Foot high: its Subſtance woody, and its Colour brown toward the Bottom; and upwards purpliſh, ting'd with green.

The Leaves are large. Their Shape is oblong, with a Tendency to oval, and they have an obtuſe Point. Two ſtand at each Joint; and having no Foot-ſtalks, their broad Baſes cloſe about the Stalk: their Colour is a fine green on the upper Side, and paler underneath; and their Ribs which are very high and conſpicuous, are naturally of a whitiſh green, but often ting'd with purple.

The Flowers ſpread from the Extremities of the Stalks into a kind of Umbells; and are extreamly ſingular and elegant. They are of a pale red towards the Ends of the Petals, and whitiſh, with a Tinge of green at their Baſe, but in the Middle of the Flower the Colour is a very lively red.

This Variation in the Colour of every Flower, their Elegance ſingle, and the full Beauty of the regular Cluſter of them, ſtamp upon the Plant a Character of Elegance none ſhould neglect who are at the Expence of raiſing Exoticks.

After each Flower there come two Pods, large, ſwoln, and of a lively green, ting'd variouſly with purple: but from the largeſt Cluſter of Flowers few of theſe are produced; for the Generality are abortive.

This is the general Figure of the Plant, but its Flowers demand a more ſtrict Attention; for few are more ſingular.

Each Flower has its ſeparate Cup. This is very ſmall, form'd of a ſingle Piece, and nick'd in five Parts at the Rim.

The Body of the Flower is form'd of a ſingle Petal divided deeply into five Segments: theſe are large, and of an oval Form, but pointed at the Tip, and they naturally bend a little; theſe have the light red Tinge we mention'd. In the outer Part of the Flower, and the united Part at the Bottom is whitiſh and greeniſh.

In the Midſt of the Flower ſtand five Nectaria or Glandules, with a kind of ſolid Plates or Scales riſing from them; theſe converge, and they are of the fine high and gaudy red which we have deſcrib'd in the central Part of the Flower. Theſe ſolid Plates ariſing from the Glandules are altogether ſingular.

The Glandules themſelves are found in the Flowers of all the *Aſclepias* kind; but in the others they are auriculated outward, and have a kind of Horn turning its Point inward. The Plates in this Flower give it an Aſpect unlike not only to the others of its Kind, but to every Thing in Nature.

In the Centre ſtand five Filaments, ſo ſhort, that they would not be perceiv'd but for their Buttons, which are large and oblong: theſe are fix'd to a ſhort truncated Body, ſpliting at the Sides in five Parts.

The Styles are two, and they, like the Filaments, are ſo ſhort, that but for their Stigmata or Tops they would ſcarce be diſtinguiſhable.

The extreme Singularity of this Flower, which would perplex any one not led by the true Path into this Science, will only ſurprize and pleaſe our Student. While he admires theſe peculiar Parts and Forms, he will ſee very obviouſly that the five Buttons refer it to the fifth Claſs in the Linnæan Syſtem, and that the two Styles place it in the ſecond Diſtinction under that Claſs, the *Digynia*.

Culture of this Asclepias.

It is a Native of the *Eaſt*; and of the warmeſt Parts of *South America*; and with us requires the Heat of a Stove to bring it to any Degree of Perfection.

The Method of propagating it is by Seeds; and the great Care ſhould be to obtain theſe freſh and in their Pods; for otherwiſe they uſually fail.

Early in Spring let a Couple of Garden-Pots be fill'd with ſome light rich Earth, from an improv'd Part of the Garden; and upon the Surface of this ſcatter the Seeds at equal Diſtances: ſift over them about half a quarter of an Inch of the ſame Mould; and then ſet the Pots up to their Rim in a Bark Hot-Bed.

Once in three Days give them a gentle Watering, with Water that has ſtood in the Stove twelve Hours; and every now and then open the Glaſſes for a little Time to give ſome Air.

Thus they will ſhoot; and ſooner or later, according to the Newneſs or Age of the Seeds, the Gardener will ſee his young Plants.

Theſe he muſt watch carefully. Once in two Days giving them a very gentle Watering; and, when the Sun is hotteſt upon the Place, allowing them a little Air.

When they have thus arriv'd at ſome little Height, let there be as many ſmall Pots provided as there are Plants: let theſe be fill'd with good Garden-Mould, and ſet in the Bed for three Days, that the Earth may be of the ſame Degree of Heat with that in which they are growing.

Then let them be carefully taken up, and one planted in the Middle of each of theſe Pots.

When fix'd in the Mould, let them have a gentle Watering, with Water which has ſtood to be warm'd in the Stove; and let them be all ſet up to the Rim in the Bark. Let the Glaſſes be ſhaded with Mats; and little Air admitted till they have taken Root.

After this they will grow faſt: let them, when they are increas'd in Size, be ſhifted into larger Pots; and when they are ſo tall as to reach the Glaſſes of the Frame, let them be taken into the Stove, and ſet in the Bark-Bed there.

After this they will require nothing but the common Management of Stove-Plants; and they will riſe to their full Perfection, and produce their ſingular and elegant Flowers in great Abundance.

4. AMETHYSTINE HYACINTH.

Plate XXIII. Fig. 4.

The Beauty of this Species of Hyacinth depends ſo much upon its Culture, that nothing is a greater Credit to the Gardener than to ſee it in the full Glory.

It will live freely enough in any Garden, and flower annually with little Care; but in theſe Caſes the Flowers are of a faint blue, or a duſky white: either Way of very little Beauty. In better Management it riſes earlier; the Stalk is ſtronger, and the Flowers are amethyſtine.

Moſt of the earlier Botaniſts have known the Plant; but they have treated of it indiſtinctly: dividing it, under its different Appearances, into more than one imaginary Species, and confounding it in Name with others.

Rudbeck calls it *Hyacinthus oblongo cæruleo flore minor.* A Name copy'd by the Bauhines, and from them by others.

Linnæus, whoſe ſpecific Names are too accurate for Confuſion, calls it *Hyacinthus corollis campanulatis ſemiſexifidis baſi cylindricis:* Campanulated *Hyacinth*, with the Flowers cylindric at the Baſe, and lightly divided at the Edge into ſix Segments.

The Root is bulbous and oblong, covered with a brown Membrane, full of a ſlimy Juice, and hung at the Bottom with many Fibres.

The Leaves are long, not very broad, pointed at the End, and of a deep green.

The Stalk is round, upright, naked, and a Foot high, purpliſh toward the Ground, and of a pale green upwards.

The Flowers cover a third Part of its Length, in a kind of Spike. They have weak Foot-ſtalks, on which they hang drooping; and they are large and very beautiful.

In their moſt natural State they are of a deep violet blue, with a light Tinge of purple: in Gardens, where they are not much regarded, they loſe this fine Tinct, and become blue, greyiſh, or white: without Luſtre in either Colour. But when the Gardener allows them a due Attention, they recover the purple of their ancient Tinct, with a fainter Mixture of the blue, and have the Colour of the fineſt Amethyſt.

The Flower has no Cup, but hangs naked from its Footſtalk: it is form'd of a ſingle Petal, cylindric and hollow at the Baſe; and at the Rim divided into ſix Segments, which turn outwards.

The Seed-veſſel which follows, is of a roundiſh Form, but marked with three Furrows, and it contains a few Seeds of a roundiſh Shape in three ſeparate Cells.

Thus far the Eye of common Curioſity diſcovers; but the Student, in our Road of Science, examines farther; tearing open a Flower, he finds within its Hollow ſix Filaments, whoſe Buttons converge toward one another, and in their Midſt a ſingle Style crown'd with an obtuſe Top.

This ſhews him that the Hyacinth is one of the *Hexandria Monogynia*, the ſixth Claſs and its firſt Section.

Pl:23

1
Great flower'd Snowdrop
2
Many flower'd Snowdrop
3
Giant Asclepias
4
Amethystine Hyacinth
Double Golden Crocus
5
Single Golden Crocus
6
Double Blue Hepatica
Boyce sculp.

Feb.

Culture of this HYACINTH.

We have obſerv'd already, that to give this Plant its perfect Beauty, more Care is neceſſary than is uſually beſtow'd upon it; but even this is not much.

It is a Native of the warmer Parts of *Europe*, and is found principally in looſe rich Soils, by the Sides of Woods, where it has Shade and Shelter.

This ſhould be our Direction for raiſing it; and upon this Plan alone the Stalk can be brought to its true Strength and Height, and the Flowers to their full Number and Beauty.

The Plant muſt be rais'd from Seeds, in order to attain its true Character of Excellence; for Off-ſets, with the beſt Management, will only be made more ſtrong than their old Roots, but will never attain a better Colour.

Let not the Gardener be diſheartened at our naming the raiſing it from Seed: we ſhall not tax him ſo highly as for the Oriental Kinds: he needs only ſow it upon a well prepar'd Border, and keep the Plants clear from Weeds: this is but little Trouble; and the reſt is Patience.

Let him procure Seeds if he can from *Italy* or *Spain*; if not, let him ſave with due Care what are ripen'd from the Plants in our own Gardens.

Let theſe be ſpread upon a paper'd Shelf to harden, and then ty'd up in a Bag till *Auguſt*.

Let him chuſe a warm and ſhelter'd Part of the Garden, and there dig out the Mould from a Border.

Let him make, for the filling up its Place, the following Compoſt:

Feb.

One Load of Mould from under the Turf in a rich Paſture; half a Load of Pond-Mud, and a quarter of a Load of Earth from under an old Wood-Pile. Let theſe be mix'd and ſcreen'd together, and the Whole thrown into the Bed.

Let the Surface be levell'd; and let it lie a Week to ſettle: then rake it again, and ſcatter over the whole Surface the Seeds. Sift upon them a quarter of an Inch of the ſame Mould, and give a gentle Watering.

In the ſucceeding Winter draw a Mat upon Hoops over the Bed, in the ſevereſt Weather; and in Spring the Plants will appear.

Let them be thin'd where they riſe too cloſe; and after this nothing need be done but keeping them clear from Weeds in Summer; and at Autumn ſifting over the whole Surface a little freſh Mould.

When they flower there will be a great Difference in the various Plants; let the meaner Kinds be remov'd into other Places, and the beſt left at a proper Diſtance. They will flower with their full Strength, and need not be at any Time taken out of the Ground, except once in three Years, to take off the Off-ſets.

This Method of letting them flower where they riſe from Seed, is the great Secret in their Culture; and this makes it neceſſary to ſow them in the Border, where they are to remain; not in Boxes, nor in the Nurſery.

Let not the practical Reader carry this Method farther than we mean: it ſuits this and the other Hyacinths of *European* Origin; but another Method muſt be uſed with the Oriental: of theſe we ſhall treat in a ſucceeding Number; and deliver the Management of them at large.

5. *Single and Double* GOLDEN CROCUS.

Plate XXIII. Fig. 5.

We have obſerv'd before, that moſt of the Crocus's of our Gardeners, however dignify'd by peculiar Names, and diſtinguiſh'd as ſeparate Species, are no more than Varieties, owing to the Force of Culture.

This which we treat of here, whether in the ſingle or double State, is nothing more than a Variety of the common Spring Crocus: but, allowing this, we may recommend it to the Attention of the Curious in Flowers; tho' the Botaniſt will find in it nothing new with Regard to Science.

The Root is roundiſh, covered with a brown Bark, and furniſhed at the Baſe with many Fibres.

The Leaves are numerous and very narrow; they have conſiderable Length; they terminate in a Point; and they riſe, together with the Stalks, ſurrounded by a fine pale Membrane.

Their Colour is a lively but not very deep green; and they have a faint white Rib along the Middle.

The Flowers are large and beautiful; they riſe from the Root with a long Tube, ſurrounded with a thin and ragged Membrane; and they are of a moſt beautiful gold yellow: the Diviſion, as in the other Crocus's, is into ſix long and large Segments, reſembling ſo many Petals; and of theſe three ſtand more outward than the others.

The three outer Segments have each a Rib of Purple running all their Length, deeper toward the Bottom, and paler upwards; and the inner Segments have the Tips purple. Within the Flower ſtand three Filaments of a yellow Colour, and tip'd with golden Buttons; and in the Midſt of theſe a ſingle Style.

The Scabbard or Film ſurrounding the lower Part of the Tube of the Flower, is form'd of a ſingle Piece; and from the Body of the Flower there run down this tubular Part ſix Lines of Purple, continu'd from thoſe which run along the Segments.

This is the Condition of the Flower in its common ſingle Appearance; but when the Gardener's dener's Art has render'd it double, the Beauty is incomparably greater.

The Segments become numerous, and their Colour a yet brighter yellow than in the ſingle Flower. The Bottoms of the Segments often ſwell out into a kind of arched or rounded Buttons; and theſe are throughout, except for a yellow line along each Edge, of a deep purple.

The Veins of purple run along the Segments in greater Number; two, three, or more, on each; and ſending of Side-Branches at ſmall Diſtances, theſe intermingle among one another, and give the whole Flower the Aſpect of a Brocade, whoſe Ground was gold, and the Flowers purple-velvet.

This is a Condition in which the Crocus makes its moſt gorgeous Appearance. It has been honour'd under it with the Name of *Crocus flore flavo vario multiplici.* But Linnæus, whom no Forms of Chance miſguide, reduces it to the Condition of a Variety only of the common Crocus; which he calls, *Crocus ſpatha univalvi radicali, corollæ tubo longiſſimo:* Crocus, with the Tube of the Flower very long, and the Scabbard riſing from the Root in a ſingle Piece.

This comprehends all the Varieties which we ſee cover the Border of our Gardens.

Culture of this Crocus.

This, as a Creature of the Gardener's Art, ſhould be kept up with all his Care: it will produce Off-ſets in Abundance; but, if they have not a freſh Soil every Year, they will decline in Luſtre. The beſt Method of all is to raiſe the Plant from Seeds.

The Method we have deſcrib'd already in treating of the Polyanthous Crocus; and ſhall only add here, that this Kind requires a ſomewhat richer Soil: the mixing Cow-dung with the Mould is the beſt Method; for that fertilizes without heating.

6. DOUBLE BLUE HEPATICA.

Plate XXIII. Fig. 6.

The *Hepatica*, common in every Garden, and diverſify'd by the Singleneſs and Doubleneſs of the Flower, and by its various Tinges of blue and red, or by its ſimple Whiteneſs, is, under all theſe Appearances, but one Species.

It is a Plant extremely ſingular in its Kind, that needs nothing but to have been more ſcarce to have been eſteem'd extremely. In its natural State it fringes the Sides of the *Swiſs* Woods, and hangs from the rude *German* Rocks, with ſingle blue Flowers.

Accidents in its wild Growth ſometimes tinge theſe with red; and where the Nouriſhment is ſcanty they will be white; but the Species is throughout the ſame; as well as in that Multiplicity of Petals, and thoſe ſtronger Colours we ſee it wear in Gardens.

All the old Writers name it; and its common Title is *Hepatica*, or *Hepatica nobilis.* Our *Engliſh* Herbaliſts have tranſlated theſe Names into Liverwort, and Noble Liverwort; but the Gardener ſtill preſerves the *Latin* Term *Hepatica.*

Linnæus has cancell'd even that; and, by a Boldneſs, perhaps too great, has join'd this Plant with the Anemonies: he calls it *Anemone foliis trilobis integerrimis:* Anemone with three-parted Leaves, the Lobes undivided at the Edges.

The red double Flower is valu'd by many for its Beauty; and the white; about whoſe Exiſtence, ſome, who have had the Reputation of Experience, have diſputed, for its Singularity; but it is doubtleſs in the deep blue double State that the Plant glows in its full Luſtre: we have therefore repreſented it in that Condition in the annexed Figure.

The Root is large; and when it has ſtood ſome Time divides into many Heads. It is covered in every Part with innumerable Fibres, moderately thick, and of a reddiſh black, variouſly intangled with one another.

The firſt Production is the Flowers; theſe riſe two or more from every Head of the Root; ſo that from a Plant of conſiderable ſtanding, it is not ſtrange to ſee forty, fifty, or more, in a Cluſter; all riſing from one principal Root.

Theſe ſtand ſingly upon ſlender and weak Footſtalks, four Inches in Height, and of a pale green, uſually ting'd more or leſs with red.

The Flower which crowns each Stalk is large, and of a fine Sky-blue, crouded with oblong undulated Petals; and in the Midſt decorated with a ſmall Tuft of Buttons plac'd upon numerous Filaments.

The Seeds follow, in the ſingle Flowers, naked, and cluſter'd together in an oval Head: ſome alſo are ripen'd after the ſemi-double Flowers; but, from the perfect double rarely any.

The Student, examining this Flower with the Eye of Science, will find it plac'd in a green Cup, form'd of three Leaves. This will a little ſtartle him in an Anemone, the firſt Article of whoſe Character is *Calix nullus:* but he muſt be inform'd, Linnæus accounts this Cup as a leafy Involucrum, tho' leſs remote from the Flower than that of the *Pulſatilla.*

Theſe Niceties he may determine at his Pleaſure: within this Cup, for ſo Nature compels us to call it, riſe ſix or more Petals; theſe are plac'd in two or more Series, and they are oblong and obtuſely pointed. In the Centre appear numerous ſhort Filaments, crown'd with a kind of double Buttons; and deep amongſt theſe are bury'd the Rudiments of many ſhort Seeds, collected together into a roundiſh Head.

The Student knows that where the Stamina are numerous and free, the Claſs to which the Plant is to be refer'd, is found by their Inſertion: he will therefore trace theſe to the Baſes: he will find them inſerted into the Receptacle; and will thence learn that the Plant is one of the *Polyandria:* the numerous Rudiment of Seeds, each crown'd with its little Style, ſhew alſo that it is one of the *Polygynia*, and he thus knows it is one of the laſt Section under the thirteenth Claſs of LINNÆUS, comprehending the Anemonies, Ranunculus's, and the like Plants.

Culture of the HEPATICA.

The Gardener will perhaps ſmile to ſee us treat the Culture of this common Plant with Ceremony, ſuppoſing no Care needful to its Preſervation: indeed it ſtands all Seaſons; and any Soil ſupports it: but we ſhall acquaint him with a Method by which he ſhall have Flowers of twice the common Bigneſs; and of a much ſuperior Colour.

Theſe are to be obtain'd by ſowing the Seeds of the beſt Kinds that produce them; and from ſuch ſowing there will riſe all the Varieties of Form and Colour that are ſeen in our Gardens: this ſhews they are only Varieties as we have eſtabliſhed already.

Soon after the Flowers open, the Leaves of the Plant thruſt up their Heads, crumpled and hairy; and by degrees they unfold themſelves, and become ſmoother, broad, and divided deeply, but not to the Rib, into three Lobes.

We name them in this Place becauſe upon their Colour is to be founded a Judgment of the Seeds, which are ſupported by the ſame Root. The natural Colour of the Leaf is a deep green, but it is often ſpotted and ſtain'd with purple. This grows deeper towards the Time of the Seeds ripening, and the more purple there is in the Leaf, the better Expectation there is to have ſtrong colour'd Flowers. This is not commonly known, but Experience ſupports it invariably.

Therefore let the Gardener mark the largeſt and fineſt of his ſingle, and ſome double Flowers for Seed; and when that is growing toward Ripeneſs, let him obſerve the Leaves. Thoſe Heads which follow ſemi-double Flowers, and are accompany'd with the deepeſt purpled Leaves are fineſt.

Let him cut off theſe in the Head, and lay them on a paper'd Shelf. When they begin to fall off let him ſeparate them entirely, and ſpread them out again: after eight or ten Days airing, when they lie looſe, let him tie them up in Bags for ſowing.

In the Beginning of *Auguſt*, dig up a Border in a Part of the Garden, open to the Morning Sun, but ſhelter'd from the full Blaze of Noon. Take out half the Mould; and mix with the reſt as much freſh Earth from under the Turf in a rich up-land Paſture. Break this very well together, rake the Surface level, and ſcatter on the Seeds.

Sift over them a Quarter of an Inch of the ſame Mould; and leave them thus to Nature.

In Spring the young Plants will appear, and the Weeds which riſe with them muſt be carefully taken up by hand. Let them then have a gentle watering twice a Week in dry Weather; and from time to time clear away the Weeds.

In the Beginning of *Auguſt* mark the beſt Plants, and thin them to about eight Inches Diſtance. Let thoſe weaker ones which were taken up be planted in other Parts of the Garden, but let the others never be removed out of their Place.

Keep the Ground clear of Weeds continually, and in dry Seaſons give gentle Waterings.

The next Spring ſome of them will flower, and the ſucceeding Seaſon all the Remainder. The Gardener will ſee in their firſt Bloom the Promiſe of a great deal of Beauty, but it will be two Years more before they arrive at their Perfection.

He will then find among them all the Varieties, and many more than thoſe we have mentioned, or others deſcribed. There will be large ſingle Flowers, valuable for their Colour and Expanſion, ſemi-double for Seed; and the moſt perfect double ones: and theſe in all the Kinds of Colour, from white through all the Shades of blue, from pearl Colour to the deep Azure of a Summer Sky, and from the ſame white through all the Degrees of red, from the Peach Bloom to crimſon, and to purple. The red and blue will be mix'd in ſome, and in theſe he will trace the purple from that of the Violet to the paleſt Heſperis.

White will be the leaſt common Colour, and indeed a perfect white untinctured with the blue or red, very rare; but he who ſhall take this Courſe, will not afterwards fancy there is no ſuch Flower.

From this Time of their coming to their full Glory, there will every Year be more and more numerous Flowers from each Root. All the Care they require is to be kept clear from Weeds; to have the Surface of the Mould ſtir'd about them often, and every Autumn to half an Inch of freſh Paſture Mould ſifted over them: taking away the old Surface in its Place. This muſt be done with great Care not to wound the Roots, and thus the Return of every Spring will cover the Ground with Flowers exceeding all the Ideas we can raiſe of their Beauty by Words.

We promiſe that the Flowers raiſed by this Management, ſhall greatly exceed thoſe of any other Culture; and perhaps the Reader will aſk, Whence is derived that great Advantage? the Succeſs of Things depends often on Articles ſo ſeemingly trivial, that they are overlook'd.

The great Benefit of our Method above others is, that the Plants are never removed. Where the Seed makes its firſt Shoot, the Plant continues to grow, and Experience ſhews this only can give it the due Strength.

Gardeners are fond of tranſplanting, but it is often attended with Damage to the Plants: ſome bear it unhurt, others are aſſiſted by it, but there are many to which it gives a check never perfectly to be recover'd: and this is one.

It is wonderful the Gardeners have not found out this obvious Method: they are all ſenſible that the Removings of this Plant are prejudicial to it; and even the moſt vulgar of them ſay if they are often removed and parted they die: Yet they adviſe the ſowing the Seeds of the ſingle Kinds in Boxes; and propagating the double by parting of the Roots.

Judicious Reader, what is your Remark on this? — that there are Men to whom their own Experience is uſeleſs?

CHAP. II.

The Management of the Flower-Garden.

LAST Week our Gardener clear'd his Borders; and put the whole Ground into a Spring Aſpect: let him now ſee what is wanting that can be ſupply'd from the Nurſery of Flowers, or from other Parts of the Ground.

If the autumnal Plantation of the fibrous rooted Kinds have been omitted, or if the Wetneſs of the Ground have render'd it more proper to be delay'd till this Seaſon, let him now bring in the ſeveral Kinds of Golden Rods and Aſters: after theſe let him plant Columbines, Sweet-williams, and the ſcarlet and other perennial Lychnis's; and this done, let him, if needful, beſtow his Care on the humble Thrift, and the proliferous Daiſy.

If the Plantation of theſe Kinds have been made in Autumn, let him look over the Ground and ſee that all holds good; where a Root ſeems decay'd, let him take it up and place another; and where any one only appears weak, let him take it back into the Nurſery, and put a ſtronger and more ſecure one into the Place in the Border.

Let him look over his Box edgings; and if there be any bad Part he omitted to mend in Autumn, or any of his new Plantation of that Time that ſeems weak, let him take the Pieces up and mend them.

In this Plantation of Box he muſt take Care to cloſe the Earth very well about the Roots, or there will be Danger.

The Winters Care of tender Flowers muſt not yet be declin'd, the Anemonies and Ranunculus's, and the other choice Kinds, depend for their Beauty in a great Meaſure upon what is done now.

They muſt be as carefully as ever defended by drawing Mats over them, ſupported by Hoops, in the ſevere Nights; but they muſt alſo be carefully harden'd to the free Air in the middle of good Days; otherwiſe when they are expoſed to it at once, tho' in a more advanced Seaſon, the great Change may utterly deſtroy their Roots.

This Week ſhould be the Time for ſowing the tender Annuals upon Hot-beds.

It is a Thing of great Importance, for all the Beauty of the Autumn depends upon it; and upon the putting in the Seed thus early, depends the Crop of the ſucceeding Year; for this bringing the Plants forward in good Time, gives them Opportunity to ripen their Seeds. They are therefore greatly to blame who direct the Gardener to defer this Work till *March*.

A Fortnight now is an Advantage that nothing can equal, or when loſt recover; and we can aſſure our Pupil in the practical Part of this Work, that there requires no more Trouble to bring them forward thus early, than thoſe take who raiſe them later.

We have directed the making of a Hot-bed for this and other Purpoſes of like Nature in a preceding Number, and in our laſt we adviſed the Gardener to get it ready for ſowing by this Time.

We ſuppoſe therefore that the Bed is made, and is cover'd four Inches and a half with rich Garden Mould, and that it is juſt in a Condition to receive the Seeds.

The Thickneſs of Mould we direct is more than Gardeners commonly uſe, but it is a very eſſential Article for the Succeſs of the Growth. Seedlings ſhoot deeper than is commonly thought, and every Fibre which reaches the Dung periſhes; not like one that is cut off, which ſends out more; but never to vegetate again. The Thickneſs of Mould we direct will prevent this, by giving them Depth enough for the Time they ſhould remain in the firſt Bed.

Let the Mould be perfectly levelled on the Surface, and as much drawn off as will ſerve to cover the Seeds; then let the Seeds be ſcatter'd carefully upon the Surface, and ſift over them a Quarter of an Inch of the Mould raked off for that Purpoſe. The Seeds of the Gomphrena, Amaranth, Balſam, French and African

Marygold, China Aſter; and the reſt are to be ſown in this Manner.

Let the Gardener then leave them to the Effect of Nature; they will ſhoot in twelve, fourteen, or more Days, according to their ſeveral Kinds, the Condition of the Bed, and the Newneſs of the Seeds; and we ſhall in the ſucceeding Weeks tell him how to manage them.

The Green-houſe will now require the Gardener's greateſt Care and Attention; for on his Conduct in this and the ſucceeding Weeks will depend the Condition of the Plants for the ſucceeding Summer.

The ſevere Weather has made it neceſſary for a Continuance of Time to keep them very cloſe; and in conſequence of this we have directed the Gardener to allow them very little Water.

Air and Water are the two great Agents, after Heat, in Vegetation: they have been withheld ſo long, that the firſt Opportunity muſt be ſeiz'd of admitting them more freely; and probably this will be the Time.

No Day or Week can be in Books ſet down for this: it muſt depend upon the Nature of the Seaſon.

If the Weather continue ſevere, the ſame Defence in all Reſpects muſt be given them, and Water muſt be withheld in Proportion; all that we direct being in ſuch Caſe defer'd longer: but if the Air be mild, the middle of the Days warm, and the Nights not very ſharp, let this needful Aſſiſtance be immediately given them. The Shutters muſt be kept back the firſt Day or two; and the next, the Glaſſes muſt be open'd a little.

Great Caution is neceſſary in doing this, for otherwiſe the tenderer Kinds will periſh. They are the leſs able to bear the Air becauſe they have been ſo long ſhut from it, and it muſt at firſt be only a very little of the mild Air of a ſtill and warm Day that is let in: from this they muſt be inur'd to more and more by ſlow Degrees; and in proportion they muſt have Water. It muſt be given them at firſt by very ſmall Quantities at a Time; and according to their ſeveral Natures, ſome requiring more, ſome leſs, and it muſt be encreaſed afterwards.

Vegetation is now to be ſuppoſed acquiring every Day new Strength in the Plants; and this is to be favour'd every Way. Beſide the Aſſiſtances of Air and Water, which we have directed to be given in this gradual Manner, Cleanneſs and a little freſh Mould are the two great Articles.

The Gardener remembers what we directed him ſome Weeks ſince to do to his Auricula Pots, let the ſame now be repeated here; but let it be done with great Care.

Let the Mould on the Surface in the Pots and Tubs be carefully ſtir'd with a blunt Trowel; and when it is well looſen'd to ſome little Depth, let it be taken off.

Let ſome Earth from one or other of the Heaps of Compoſt ſuited to the Nature of the ſeveral Kinds, be brought into the Green-houſe two Days before, that it may have loſt the Chilneſs of the open Air; and with this ſupply the Place of what is taken out as we have directed.

As ſoon as the Earth is taken away, let the Surface below be examin'd; and if any Fibres of the Roots are ſeen, let them be carefully cut off with a ſharp Knife: immediately upon this let the freſh Mould be pour'd on, and let it be carefully ſpread over every Part.

From this Time the Waterings are to be repeated occaſionally: they will waſh in the finer Parts of this new Soil; and with the Admiſſion of a mild Air at the ſame Time, the Trees and Plants will be very happily ſet on growing for the Summer's ſhew.

To aſſiſt this farther, the great Article of Cleanlineſs is to be thoroughly regarded. Probably the Cloſeneſs needed to keep out the Winter's Air, will have hurt ſome of the Plants, and the Scent of their decaying Parts will be perceived.

In this Caſe let thoſe which are tainted be removed out of the Green-houſe into ſome other Place of Shelter, where their Recovery may be attempted; and the Infection thus kept from ſpreading.

Then let all dead or decaying Leaves be carefully pick'd off; and if Foulneſs of any kind, Mouldineſs or Inſects be found on any of the Leaves or Branches, let it be waſh'd and wiped carefully away.

Let this Care alſo be continued to the Stove.

The preſent Stock being thus put into a good Condition, let the Gardener prepare for a Succeſſion of ſome, and for an Addition of other Kinds.

The Propagation of the far greater Part of Green-houſe and Stove Plants, we have ſhewn is beſt effected by ſowing their Seeds; and the Seaſon of doing that is now at hand. Some raiſe them wholly upon Hot-beds of Dung; but the far greater part ſucceed much better ſown in Pots of Earth, ſet up to the Rim in a Bark-bed.

In treating of the common Hot-bed with Dung, we mention'd this with Bark as uſeful on many Occaſions, and we ſhall here ſet down the Conſtruction of it; not after their Directions, who, while they pretend to inſtruct, wiſh to miſlead; but from Experience.

In general, we ſhall adviſe the Gardener to raiſe in the common Hot-bed the Annuals for his open Borders; but the more delicate and tender Kinds, intended for the Stove and Greenhouſe, in the Bark-Bed; of which the following is the true Conſtruction.

The Manner of making a Bark Hot-bed.

Procure from the Tanners a good Quantity of their Bark, after they have us'd it; and lay it up in a Heap to drain a little: the next Day mix with it ſome old Tan that has been us'd, and ſome Saw-duſt.

The Quantity of each ſhould be equal; but no exact Rule can be given for the Proportion they ſhould bear to the Tan; becauſe that is of various Kinds.

It will be proper for the Service of the practical Reader to diſtinguiſh the Bark, according to the Size, into three Kinds; the large, the middling, and the ſmall.

Where there is choice of ſeveral Sorts, let the middling be choſen; for it heats the moſt regularly, and continues its Warmth the moſt equally and uniformly.

If the Bark be of this kind, about one-ſixth Part of Sawduſt, and the ſame of old Tan, is the beſt Proportion.

When the Bark is larger, more Sawduſt and old Tan muſt be uſed, for otherwiſe it will not heat readily. If it be the ſmall Tan nothing need be added to it.

The Difference in the Uſe in the three Kinds is this, the large grows warm ſlowly; but it keeps heat a long Time: the ſmall heats quickly, but does not laſt: the middling kind grows warm gradually, and retains its Heat regularly and equally a ſufficient Time.

A Bed of this made with the Proportion of Sawduſt and old Tan we have mentioned, will retain its Heat four Months very well; and after that, if it be ſtir'd up with a little freſh Bark, it will anſwer the Purpoſe again for a very conſiderable Time longer.

This Length of Continuance of Heat in the Bark-beds is their great Advantage, for many of the tenderer Plants require it; and no Art can make a Dung Hot-bed anſwer the ſame Purpoſe.

If there be no old Tan in Readineſs, the Quantity of Sawduſt muſt be encreaſed in proportion; and the Heap muſt lie two or three Days longer than uſual before it is uſed.

The Gardener now underſtands the Nature of the ſeveral kinds of Bark: it will be uſeful always to add ſome Sawduſt and old Stuff to the Heap; and larger the Tan the more of this muſt be added; the ſmaller it is the leſs will ſerve.

When the Bark has been broken from the firſt Heap, and the old Stuff and Sawduſt mix'd with it, the whole muſt be raiſed up in a Heap again; and thus it muſt continue gradually heating while the Gardener is preparing the Pit for its Reception.

Mark out upon a dry Part of the Ground a long ſquare Piece twelve Foot in Length, and ſix and a half in Breadth.

Dig out the Soil to the Depth of two Foot and a half; and looſen it at the Bottom when it is at this Depth with a Pick-axe.

Then let the Sides be brick'd up, and it will be ready for the Reception of the Bark.

We will ſuppoſe about five Days employ'd in this Work; and the Bark which has lain ſo long in its laſt Heap, will be juſt in a Condition to uſe.

Let it be thrown by a little at a Time into the Pit; and let the Surface be well levelled, and the whole laid cloſe, and beat down gently from time to time as it is laid in.

This will prevent any Hollows which would cool the Maſs; and being thus taken in its firſt Heat, and laid cloſe, it will ferment with a perfect Regularity.

Let the Gardener take a great deal of Care in the laying and beating it down, for upon that depends the whole Succeſs. It muſt not be beat hard, much leſs be trod down, as ſome direct; for in that Caſe it will heat but very poorly.

The three-prong'd Spade we directed for diging about Fruit Trees, will be the beſt Inſtrument to uſe for the Purpoſe; and all the beating it ſhould have, ſhould be lightly with the Back of this every Time a freſh Parcel is laid ſmooth.

The Roundneſs of the Back of this Inſtrument will prevent its falling too heavily; and this will properly lay it too cloſe for any great Cavities, and yet not ſo compact as to ſtop Fermentation.

The Bark thus carefully laid, the Frame muſt be put on, and the Glaſſes ſhut cloſe. Thus, the Warmth being kept in, the Bark will gradually heat, and in about twelve Days the Bed will be fit to receive the Pots of Earth with the Seeds. We ſhall then direct in what manner they are to be manag'd; all that remains here to be mention'd, being the Shape of the Frame.

It is a common Error to make this too deep. The Meaſure I have found ſucceed beſt is a Foot and a half Height at the Back, and eight Inches at the Front.

When it is deeper, the Space being larger, the Air is not well warm'd; and this is as eſſential as the whole to the favourable Growth of the Plants.

The Bed may be requir'd deeper for particular Purpoſes, and of thoſe we have ſpoken in their Place. This is the beſt Meaſure for the Bark-bed for Seeds.

The beſt Thickneſs of Bark is about three Foot, but a few Inches more or leſs are not material.

SECT.

SECT. II.

The Buſineſs of the SEMINARY, for this Week.

THIS is the Time for a very uſeful Article in the Seminary, the raiſing Cheſnut-Trees.

It is to be done from Seed; and, with tolerable Punctuality in obſerving the Directions we ſhall give, the Gardener may depend upon Succeſs.

We have obſerv'd on many Occaſions, that the beſt Method of raiſing Plants from Seed, is to obtain it from the Places where that Species ſucceeds beſt: the ſame Caution ſhould be obſerv'd in the preſent Caſe.

Cheſnuts ripen'd in *England* will grow freely enough; but the fineſt Trees are thoſe rais'd from ſuch as have been produc'd in *Spain.*

A great Quantity of theſe are brought over annually for the Service of our Tables; and from ſome freſh Parcel a Number ſufficient to the intended Plantation ſhould be ſelected.

Let the faireſt and soundeſt be pick'd out for this Purpoſe; and let a Piece of Ground in ſome freſh Part of the Seminary be dug up a full Spade Depth for their Reception.

Draw Lines along this Piece at ten Inches Diſtance; and then with a Trowel let in the Cheſnuts.

Firſt throw them into a Tub of Water, and ſkim off ſuch as ſwim, for they are of no Value. Then at ſix Inches Diſtance along every Line, open a Hole with a Trowel, break the Bottom with the Point of the Trowel: and place the Cheſnut with the Eye upwards; throw in the Mould, and cover it two Inches.

In this Manner ſet the whole Parcel, and the Trouble will be very well recompens'd; for in about nine Weeks there will be ſeen the Shoot of a Tree from every Hole. Scarce one in a hundred, when ſet with this Regularity, ever miſcarrying.

The only Care the young Trees require, is to be kept clear from Weeds; and they will thrive very well three Years in this Seed-Bed, after which they ſhould be planted out to a greater Diſtance; and after four Years more they will be of good Size to plant out where they are intended to remain.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THE great Article of planting Fruit-Trees is a Work of this Seaſon, and ſo much depends upon the doing it well, that no Care is too great in the Operation.

In many Kinds of Soil the Autumnal Plantation is beſt; but where the Ground is apt to lodge Wet, from a firm clayey Bottom, this Week is a more proper Seaſon.

This makes it an Act of Prudence to defer the Plantation to the preſent Time; and in many other Caſes it is an Act of Neceſſity. If the Autumnal Plantation have been omitted; if the Poſſeſſor of the Garden is but juſt come to it; or if any of thoſe planted at that Seaſon fail: in all theſe Caſes the preſent Week is the Time of Plantation; and let it be done in this Manner:

In the Beginning of this Week, let the Gardener, wherever he deſigns to plant, break the Earth well, if the Hole have been open'd before, according to our Directions; and if not, let him now dig it large and deep, throwing the Earth out in a Ridge, and breaking the Bottom the Depth of a Pick-axe.

Once in the Week let it be well broke, and turn'd up again; and at the latter End of the Week let him bring in the Trees.

Theſe ſhould be taken up carefully without Injury to their Roots. The common Way is to chop theſe off with a Spade; but let our Gardener take them off, wherever he can, with a ſharp Knife; and wherever the Spade has bruis'd them let him trim them even.

The Cut is always to be made ſloping downwards.

This done, the Head is to be leſſen'd, in the Manner we have before directed; for the Roots cannot ſupply the uſual Quantity of upper Growth immediately after their Removal.

Let the Trees be ſet carefully upright, and the Mould thrown in gradually and well cloſ'd about them.

Take Care all the Roots ſpread in the free and natural Manner: this is the Uſe of having the Hole big enough: and let them be ſet at ſuch a Depth, that the upper Part of the Roots be juſt upon a Level with the Surface. They muſt be covered a little, for the Earth will ſettle.

If the Mould be moiſt, ſift ſome Coal-aſhes among it, for otherwiſe it will not get in among the ſmall Roots: for this Reaſon, the beſt Time for this Planting is juſt after a Froſt, when the Soil is crumbly.

In Setting, ſhake the Tree a little to let the Mould in between all the Roots; and when lightly trod down, without bruiſing the Roots, draw it up in a little Hillock round the Stem.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

LET a Bed be dug very well for the ſowing of Onions, and another for Leeks: theſe will ſucceed without Danger; and it will be proper now to ſow a large Bed at once.

Let a ſmall Piece be laid level and fine for Cabbage Lettuce-Seed. A little of this ſhould be ſown at a Time, and a freſh Bed made once in ten Days, that if one Parcel miſcarries another may ſucceed.

Dig up a deep and rich Part of the Ground, and, dividing it into two Beds, ſow one with Selſafie, and the other with Scorzonera.

The Roots will grow to a Size for the Table very quick from this Sowing, and they will be more tender and of a better Flavour than any that come later: but let the Gardener take Care to draw them as ſoon as they come into Condition; and the quicker they are us'd, the better; for they will run up into Stalk quickly: and as ſoon as that is but begun, the Roots grow ſticky.

Let a ſmall Hot-Bed be made this Week for Cauliflower-Seed. The Plants rais'd from it will require a particular Management; but they will come in at a very good Time, long after the early Crops are gone, and they will be very acceptable. The Seeds will grow very readily, and the Plants will riſe with little Care.

The great Art in bringing them to good, is to plant them at large Diſtances, in a low Part of the Garden, and to give them frequent and large Waterings.

When the Heads appear, the inner Leaves muſt be crack'd at the Bottom, and bent in over them; and thus defended from the Sun, and ſupply'd well with Moiſture, they will be large, white, and very well taſted.

Bury ſome Dung in a Trench, cover it with ſix Inches of Mould, and ſow *Cos* and *Sileſia* Lettuce-Seed. There need be no Defence over this; except the Weather ſhould prove very ſevere; but the Plants will come up favourably.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XXIV.

For the third Week in *FEBRUARY.*

SECTION I.

FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.

Flowers and curious Plants now in their Perfection.

1. TREE MINT.

Feb.

Plate XXIV. Fig. 1.

AMONG all our Collections there are few Exotics of more Curioſity than this: a Mint riſing to the Height, and acquiring the Firmneſs of a robuſt Shrub or ſmall Tree; and covering the Tops of its divided Branches with Snow-white Flowers.

Scarce any Plant has been, in the Uncertainty of Science, more ſtrangely miſ-nam'd. It is indeed to the Credit of our PLUKENET, that he refer'd it to the proper Kind, naming it *Mentha Canarienſis fruteſcens:* Shrub Canary Mint.

COMMELINE has made it a *Turnſole:* he calls it *Heliotropium Canarienſe arboreſcens:* Canary-Tree Turnſole: and as Errors have generally the Fortune to be beſt remember'd, this is the Name by which it is moſt known, altho' the other occurs in a Writer at leaſt as familiar to the modern Student.

LINNÆUS vindicates the Determination of PLUKENET, referring the Plant to the Mints: he adds, as its ſpecific Diſtinction, *floribus capitatis axillaribus dichotomis, foliis ovatis crenatis, caule arboreſcente:* Oval and indented-leav'd Tree-Mint; with cluſter'd Flowers on ſplit Branches riſing from the Boſoms of the Leaves.

The Root is woody, brown, and divided into numerous Parts.

Feb.

The Stem, in its natural Place of Growth, often riſes naked to twelve Foot in Height; but more uſually there, and conſtantly with us, is branched from the Bottom, and of the Height but of four or five Foot. The Gardener ſhould not trim it for a Tree, becauſe in this other Form it is better.

The outer Bark is brown; and, on the ſmall Shoots, has a Tinge of red: the inner Rind is green. The young Shoots are ſquare in the Manner of the Stalks of our common Mints; but as they grow more firm, they looſe their Angles and become round: they have alſo a downy Matter hung about them at firſt, which falls off as they grow harder.

The Leaves ſtand naturally in Pairs, but not invariably: they have long browniſh woody Footſtalks; and they are of an oval Form, bluntly indented at the Edges, and obtuſe at the End. Their Colour on the upper Side is a fine pale green; and on the under they are white and hoary. The young Stalks are alſo hairy, and the upper Side of the Leaves, tho' leſs diſtinctly.

The Flowers are very numerous, naturally of a Snow-white, but ſometimes ting'd a little with a Bluſh of red. They are ſingly ſmall, but they ſtand collected in thick Heads or rounded Clu-

Feb. ſters, and they have hairy Cups, which are very conſpicuous, and add no little Singularity.

The Footſtalks which ſupport theſe riſe from the Boſoms of the Leaves, from Top to Bottom of the Plant; and they naturally divide into two Parts when they have reach'd about two thirds of their Length: theſe ſeparate Parts ſupport each a Tuft of Flowers. This Diviſion into two Parts regularly, is what Botany calls *dichotomous.*

The whole Plant has an aromatic Smell when bruis'd, and the Leaves, eſpecially when newly produc'd, have a very agreeable Taſte.

The Student, to underſtand the proper Place of the Plant in a Botanical Syſtem, and know with what Juſtice it is refer'd, from ſo unlike a Genus as the Turnſole to the Mint, will naturally be led to examine its Flowers.

The Cup in which each is plac'd, he will find form'd of a ſingle Piece, and tubular at the Bottom, nip'd at the Rim into five Segments.

The Body of the Flower is form'd of a ſingle Petal, tubular, and divided at the Rim into four Segments, of which the upper one is broader than the reſt, and nip'd at the Top.

In the Body of this Flower he will find four Filaments, crown'd with roundiſh Buttons; and of theſe he will perceive two are longer and two ſhorter. In the Midſt of theſe riſes a ſingle Style, from a ſlight Rudiment of a Fruit, riſing in four Ridges. This ſhould ripen into four diſtinct Seeds; but the Mints in general have them often abortive.

The different Length of the Filaments ſhews the Student he is not to ſeek the Claſs in their Number, but in this Diſproportion. The *Didynamia* receive all Plants in whoſe Flower there are two longer Stamina; and the ſingle Style ſhews that it belongs to the *Monogynia.*

Culture of the TREE MINT.

Feb.

It is a Native of the *Canaries*, where it thrives beſt in a rich, light, but not too dry Soil. This we muſt imitate in the Compoſt made to receive it: and with the Winter Shelter of a Green-houſe, we may raiſe it to all the Strength and Vigour of its natural Growth.

The beſt Compoſt is this:

Dig a Barrow of good rich black Mould from under the Turf in a Meadow: mix with this an equal Quantity of Pond-Mud, a Buſhel of coarſe Sand, and a Peck of Hogs Dung. Throw this in a Heap, and turn it occaſionally: it will ſerve for this and ſeveral other of the *Canary* Plants, from the ſame Kind of Soil.

In this Compoſt the Shrub may be rais'd either by Seeds or Cuttings; but the latter is much the better Method: it ſaves a great deal of Trouble; and the Plants are generally ſtronger.

If there be a Neceſſity of raiſing it from Seed, from the want of Opportunities to procure Cuttings, Care muſt be taken to get the Seeds from the *Canaries*, for it very rarely ripens them here; and often, even then, ſo imperfectly, that not one in fifty grow.

Therefore to raiſe a few Plants a great deal of Seed ſhould be ſown; and it muſt have the Aſſiſtance of a Hot-Bed in Spring: from this the young Plants muſt be remov'd to a ſecond; and thence into Pots, as we have directed for raiſing other Green-houſe Plants.

The Cuttings ſhould be procur'd from a flouriſhing Shrub; and in the Beginning of *April* planted in Pots of the Compoſt.

Theſe muſt be ſet in a Bark-Bed of very moderate Heat; and when they have taken Root they may be brought out by Degrees among the Green-houſe Plants; after which they will require only the common Care. They muſt be hous'd early; and they require frequent Waterings.

The Cuttings may be rais'd in the open Air: but they root more ſlowly and uncertainly.

2. WHITE AMERICAN PURSLAIN.

Plate XXIV. Fig. 2. This is an upright and handſome Plant: the Leaves are of a pleaſing Shape and very elegant Colour; and the Flowers ſpread into a broad Cluſter from the divided Summit of the Stalk.

'Twas early brought from the *American* Meadows into the Collections of thoſe who rais'd curious Plants in *Europe*: and HERMAN call'd it *Portulaca Americana latifolia erecta*: Upright broad-leav'd *American* Purſlain.

The reſt have copy'd this; and luckily the Genus has not been miſtaken, tho' there is a Singularity in the Stigma in which it differs from all other known Species; and from which it derives its proper ſpecific Name, *Portulaca floribus pedunculatis ſtigmate tripartito*: Purſlain, with the Flowers on Footſtalks, and the Stigma divided into three Parts.

The Root is white and fibrous.

The Stalk is round, upright, and thick, but of a tender Subſtance. At the Bottom it is ſtrongly ting'd with red; upwards its Colour is a bright ſilvery green.

The Leaves ſtand thick upon it from the Bottom to the Top: they have no Footſtalks, but adhere by a narrow Baſe, from which they grow broader to the Extremity.

Their Colour is a bright freſh green; and they have a thick juicy Subſtance. At the Extremity they are rounded and broad; and frequently they have in that Part a heart-like Dent.

The Middle Rib, eſpecially in the lower Leaves, is large and conſpicuous, and its Colour is uſually reddiſh, eſpecially toward the Baſe. The Taſte is watery; but there is a latent Acidity and an auſtere Flavour at going off.

The Flowers cover the Top of the Plant in a large looſe Head.

The main Stalk divides in this Part into a vaſt Number of Branches; and on each there are many Flowers; they ſpread out wide every way; and there are all down them Flowers on ſlender reddiſh Footſtalks, at Diſtances.

The Flowers themſelves are of a ſnowy white: accidentally they are ſometimes ting'd with a Bluſh of Fleſh-Colour, which gives them a ſingular Aſpect; but the Beauty is not leſs in the true and genuine milky Whiteneſs.

The Seed-veſſels are roundiſh, and terminated by a Point; and in each are a Number of ſmall Seeds.

The Student, examining this Flower, will perceive that its Cup is form'd of a ſingle Piece, and is of a peculiar Structure, ſplit into two Parts, and compreſs'd at the Top: this is peculiar to the Purſlain Kind; but it is univerſal among them.

The Flower itſelf is form'd of five Petals, oblong, ſomewhat oval in Form, and ſpread wide open. In the Centre ſtand twelve ſhort Filaments, each top'd with its round Button; and bury'd among theſe is the Style, which, tho' ſimple in itſelf, has three Stigmata or Tops; this is peculiar to the preſent Species, the others have five.

The Student will have no Difficulty to refer this Plant to its proper Claſs. Twelve Filaments and a ſingle Style declare it to be one of the *Dodecandria Monogynia*, the twelfth Claſs in the LINNÆAN Method, and its firſt Section.

Culture of this PURSLAIN.

The Plant is an Annual, native of the warmer Parts of *America*, and fond of a deep, moiſt, and mellow Soil: this declares its Culture.

We direct our Gardener to form himſelf upon theſe rational Principles: to learn the Place where the Plant is native, and its favourable Soil, and to accommodate all he does here to the Reſemblance.

Early in Spring let the Seeds obtain'd from *America*, or gather'd here, for either anſwer very well, be ſow'd upon a common Hot-Bed, with other Annuals.

When they have acquir'd ſome Strength in the firſt Shoot, let them be tranſplanted with the other Kinds into a ſecond, and thence into a third Hot-Bed.

This is the beſt Method; and where the whole Autumnal Store is rais'd together, the Trouble ought not to deter the Gardener.

From the third Bed let as many as there are choſen to be preſerv'd, be planted into ſeparate Pots of rich Garden-Mould. Let them be frequently water'd, and kept under a Hot-Bed Frame, till they are well ſtrengthned in the new Earth: then let them be ſet out with the other Greenhouſe Plants, and kept in the free Air till Autumn: they are then to be remov'd into the Greenhouſe, where they will flower in Perfection; and their Leaves will give a fine Variety.

3. MULTIFID-LEAV'D AFRICAN SENECIO.

Plate XXIV. Fig. 3.

This elegant and conſpicuous Plant is one of thoſe *Senecios*, which the Beauty and long Rays of the Flower have refer'd to the *Aſter*, or Starwort Kind, among the earlier Writers; but to LINNÆUS we owe a better Diſtinction; and, among the *ſyngeneſious* Genera, that of *Senecio* properly receives it: many beſide this, being, according to that Method, refer'd to the preſent Genus, as the *Aſter Senicionis foliis* of COMMELINE: this VOLKAMER made a *Jacobæa*, and LINNÆUS has nam'd it *Senecio corollis radiantibus foliis pinnatifidis.*

The Root of this Species is oblong, brown, and hung with numerous Fibres.

The Stalk is upright, ſlender, and divided into many Branches.

The Leaves are numerous; and their greyiſh green, with the natural brown Hue of the main Stalk, gives a pleaſing Variety of Colour.

They are long, and divided in the Manner of a Stag's Horn into numerous Segments: from a whitiſh Colour they have when young, they grow more and more green as they expand; but at their fulleſt Size, there is a Tinge of greyiſh, with the green above; and on the under Part they are paler and more grey.

The Flowers are plac'd ſingly upon long naked Footſtalks, which riſe from the Boſoms of the Leaves and Tops of the ſeveral Branches. They are large, and of the compoſite radiated Kind. The Rays are yellow on the Inſide, but of a deep purple without; and the Diſk in the Middle is yellow.

The Student, examining this Plant with the Eye of Science, will find the Diſk compos'd of numerous Floſcules, tubular, oblong, and divided into five Segments at the Edge. The Rays ſurround this from twelve to twenty in Number; and the whole Flower is plac'd in a Cup form'd of many narrow Scales, ſurrounded at the Baſe by a ſmaller Number of broader, whoſe Tops are wither'd.

In each Floſcule are plac'd five Filaments, whoſe Buttons coaleſce into a Cylinder; and this ſhews it one of the *ſyngeneſious* Claſs, as are all the other Plants of the *diſcoide* Kind, whether radiate or naked.

Culture of this SENECIO.

It is a Native of the *Cape of Good Hope*, and was firſt known in *Europe* in the *Dutch* Gardens. It is a perennial Plant; and improves in Beauty each Year; but it requires good Care.

The Cuttings take Root freely: or it may be rais'd from Seed. In either Caſe, the proper Compoſt is an equal Quantity of Garden Mould and freſh Paſture-Earth.

The Seeds are to be rais'd in a Hot-Bed in the uſual Way; and the Cuttings muſt be planted in Pots of this Mixture, and plung'd in a Bark-Bed, to promote their Rooting.

Which ever Way it is rais'd, it muſt be ſet out among other Exotics, in Summer, and hous'd early in Autumn. After this, the great Care it requires is Cleanlineſs; for no Plant is ſo apt to be over-run with Filth; and this quickly kills it.

The Gardener muſt waſh off Mouldineſs or Inſects wherever he finds them; and this Way the Plant will produce its beautiful Flowers all Winter.

4. CRIMSON OXALIS.

Plate XXIV. Fig. 4. A moſt ſingular and handſome Green-houſe Plant; which with no Length of Stalk, or ſpreading Branches, covers the Surface of its Pot with vaſt Flowers of the livelieſt Crimſon, at a Seaſon when the other Plants in general, which have flower'd thro' Winter, are decaying.

Thoſe who have written on the *African* Herbs, have celebrated this elegant Species largely; and all have refered it to the proper Genus: the Marks indeed, are impreſſed too ſtrongly to be miſtaken, or paſſed unheeded.

BREYNIUS indeed calls it, *Oxalidi affinis bulboſa Africana.*—BURMAN, *Oxys bulboſa hirſuta.*—He makes the Flowers white; but we know how eaſy Accident occaſions that light Change. The Plant remains the ſame.

LINNÆUS, more correct than all, diſtinguiſhes it by the Title, *Oxalis ſcapo unifloro foliis ternatis, radice bulboſa:* Ternate-leav'd bulbous *Oxys*, with one Flower on each Stalk.

The Root is roundiſh and of a brown Colour, of the Bigneſs of a Hazel-Nut, and compos'd of three or more oblong diſtinct Parts, wrapp'd in ſeveral Rinds.

From the Bottom of the general Root riſe many Fibres; and from the Top of each particular Part ſeveral Stalks, ſome ſupporting Leaves, ſome Flowers.

The Leaves are very numerous when the Plant has ſtood ſome Time, and they are themſelves of very ſingular Beauty. Three grow together upon every Footſtalk.

Their Colour is a freſh and elegant green on the upper Side, and the ſame lively Tinct, cover'd with a ſilvery grey, underneath: they are large and rounded at the End.

The Footſtalks are long, moderately thick, and of a beautiful red.

The Flowers are in Number equal almoſt to the Leaves, and they are plac'd on ſlender and weak Footſtalks; one on the Top of each: theſe bend with them, partly from their own Weakneſs, and partly from the Size of the Flower: they are of a pale fleſhy red; and the Flower itſelf of the moſt lively Crimſon. Before they are fully open'd, they curl in the Manner of the Flowers of ſome of the Bind-weeds; and they have, when newly open'd, a light Fragrance at Evening.

The Cup in which this Flower is plac'd, is ſmall and permanent: it is form'd of a ſingle Piece, divided lightly into five Segments.

The Body of the Flower is compos'd of five elegant Petals, broadeſt at the Extremity, where they are uſually dented in the Middle; and very narrow at the Bottom, where they cohere by the Baſes.

In the Centre riſe ten Filaments, the outer ones ſomewhat ſhorter than the others; and among theſe five Styles.

The Seed-veſſel is oblong; and, when ripe, burſts with Violence.

The Student needs not be now inform'd, that a Plant with ten Filaments and five Styles, is one of the *Decandria Pentagynia* of LINNÆUS; the tenth Claſs and its firſt Section.

Culture of this OXALIS.

The Plant is a Native of *Africa*, where it fringes the Edges of thoſe little Brooks that run down ſhadowy Hills. It loves a moiſt rich Earth; but is kill'd even where native, if too much within the Influence of the Water.

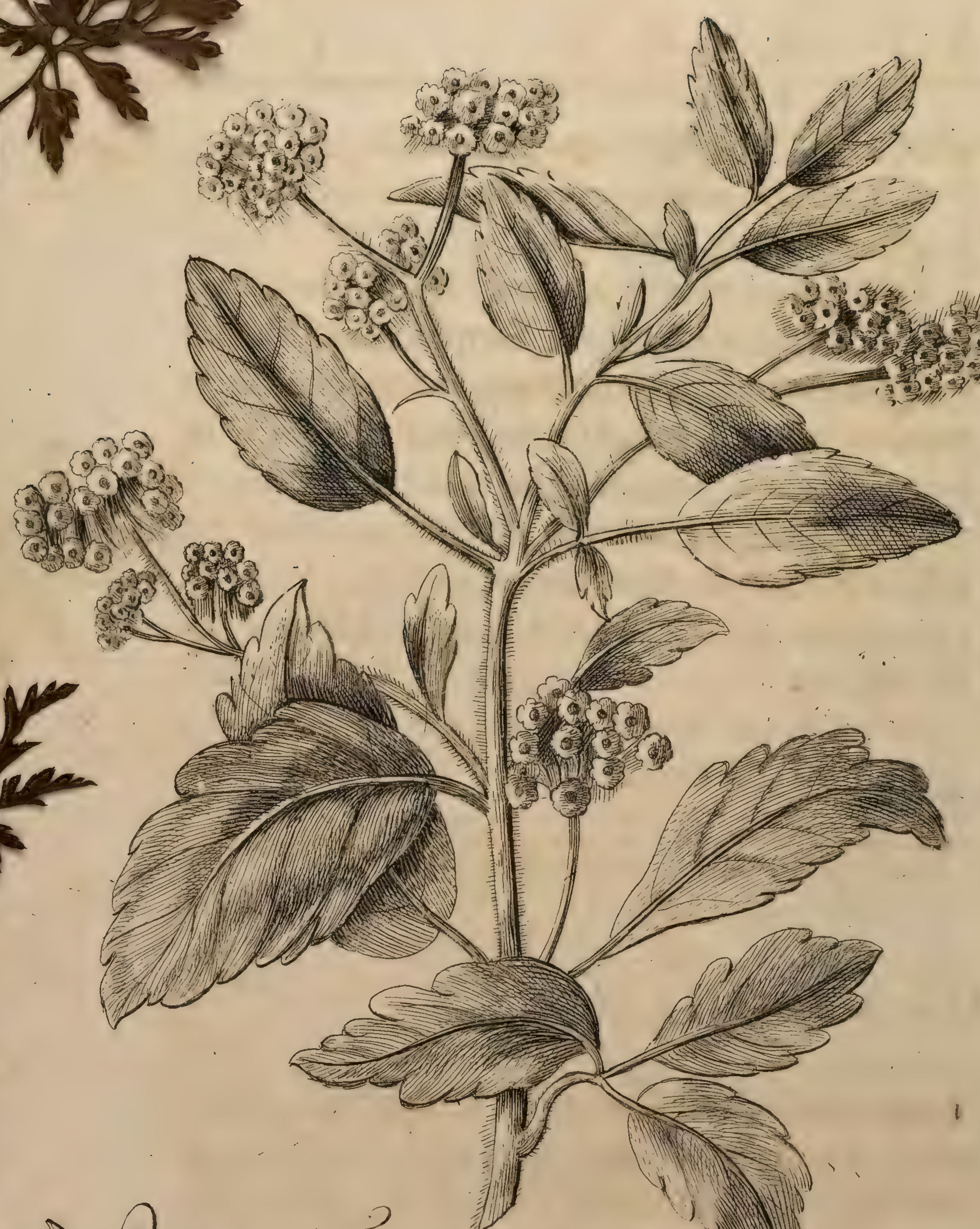
With us it may be rais'd from Seeds, or from the parted Roots; for when the Plant has ſtood a few Years, it encreaſes by theſe abundantly.

In which ever Way it is rais'd, let the following Soil be prepar'd for it:

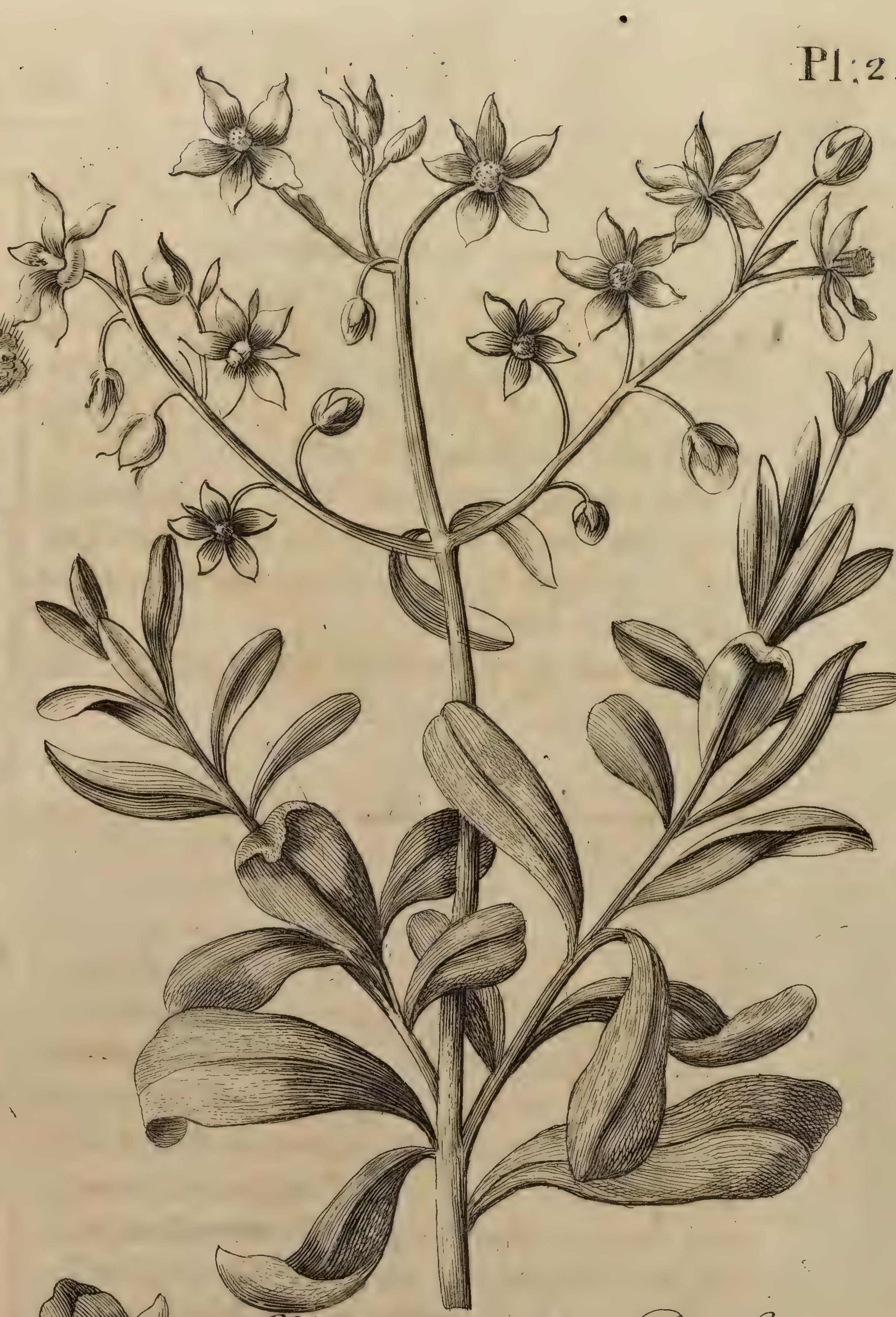
Mix equal Parts of black Meadow-Earth and Pond-Mud: to a Buſhel of this add half a Peck of old Cow-dung, and a Quart of large clean Sand.

Mix theſe well, by ſcreening them after good breaking; and with this fill two or three Pots.

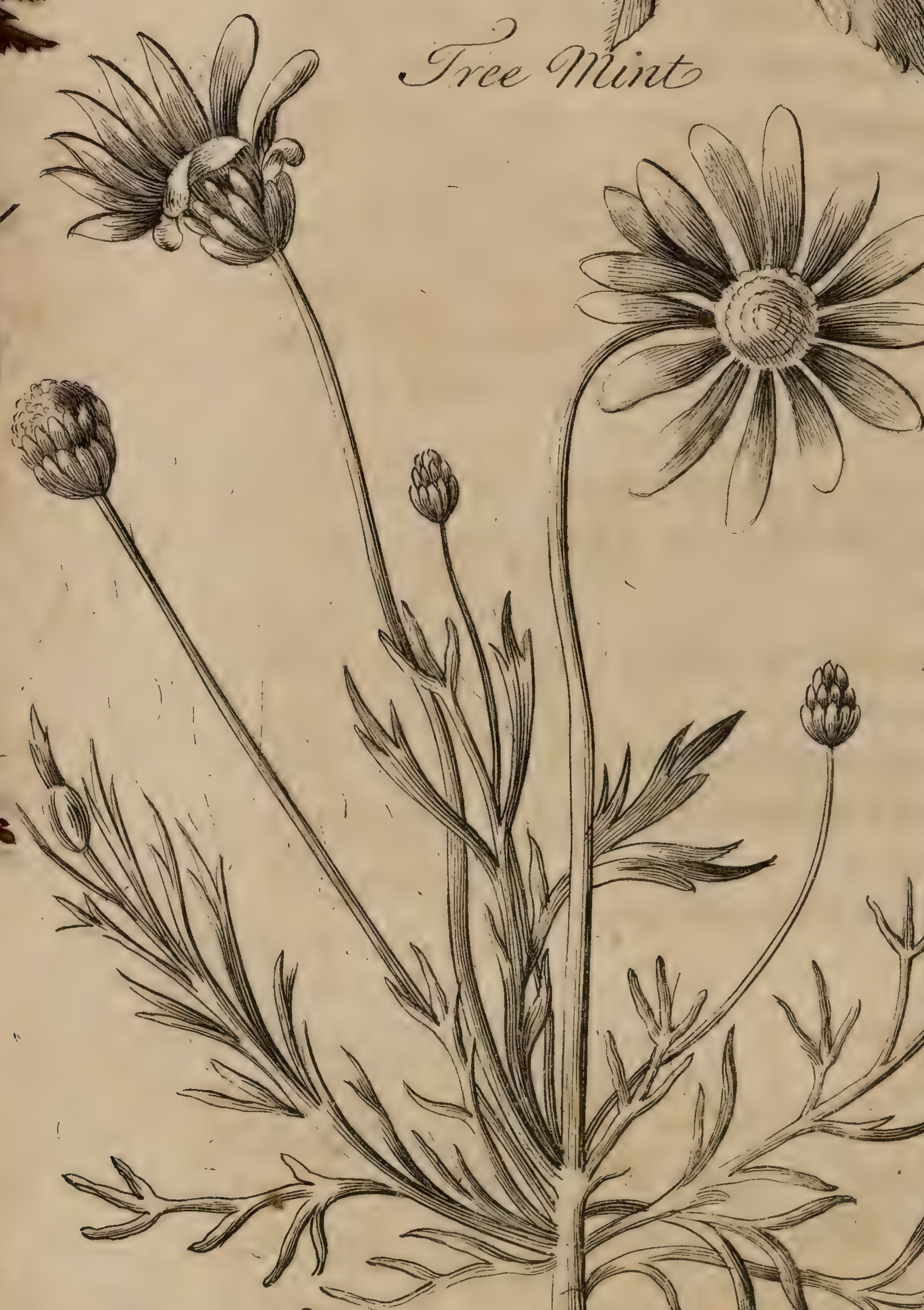
If the Roots be us'd, it is beſt to plant about eight Off-ſets in a middle-ſiz'd Pot; for the Intent is, that the Leaves and Flowers from them ſhould fill the Pot, and hang every way over its Surface. Theſe ſhould be ſhaded and water'd carefully, till well rooted in the new Soil, and then treated as the other Greenhouſe Plants. They will flower the ſucceeding Spring, as early as this



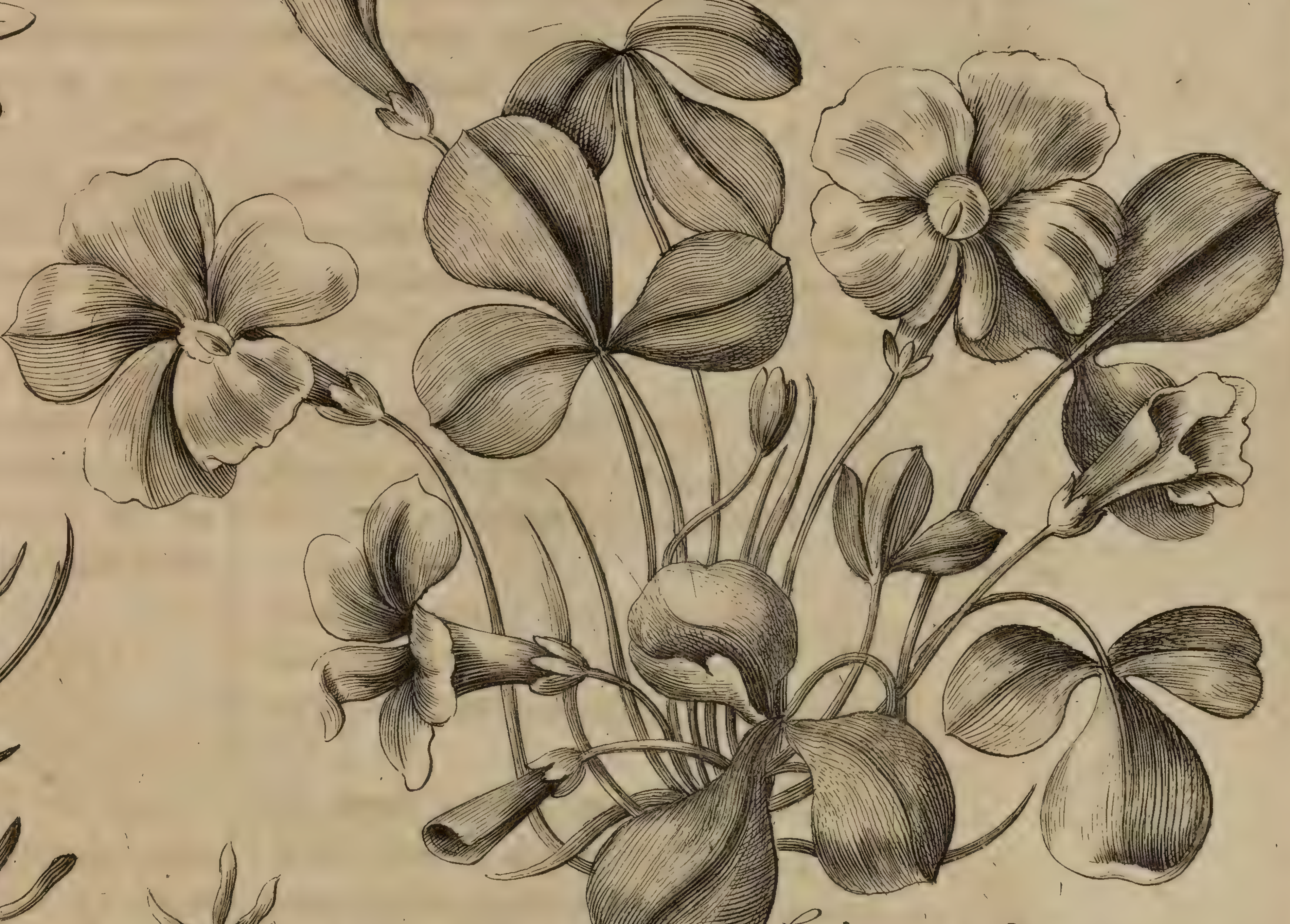
Tree Mint



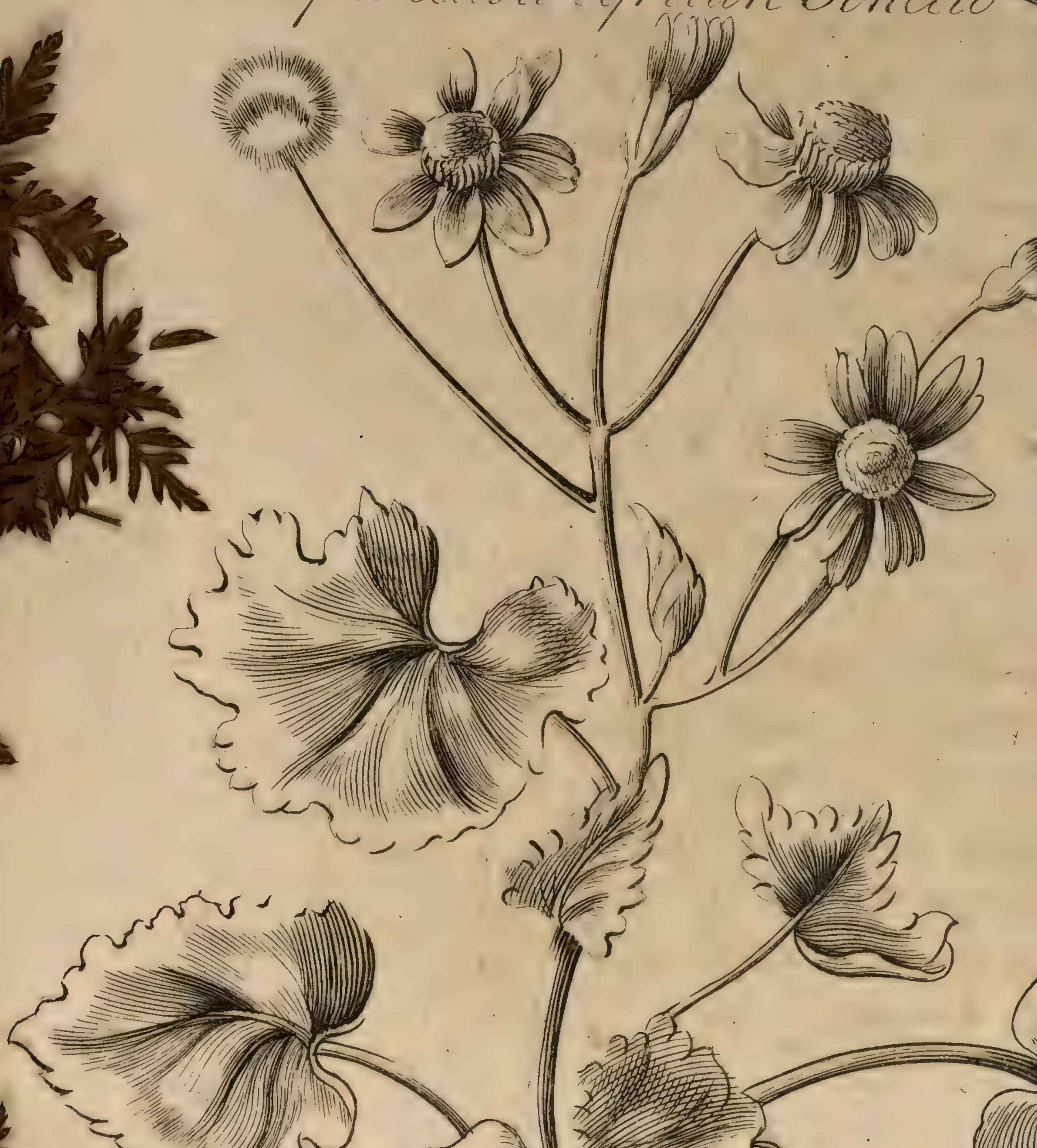
White American Purslain



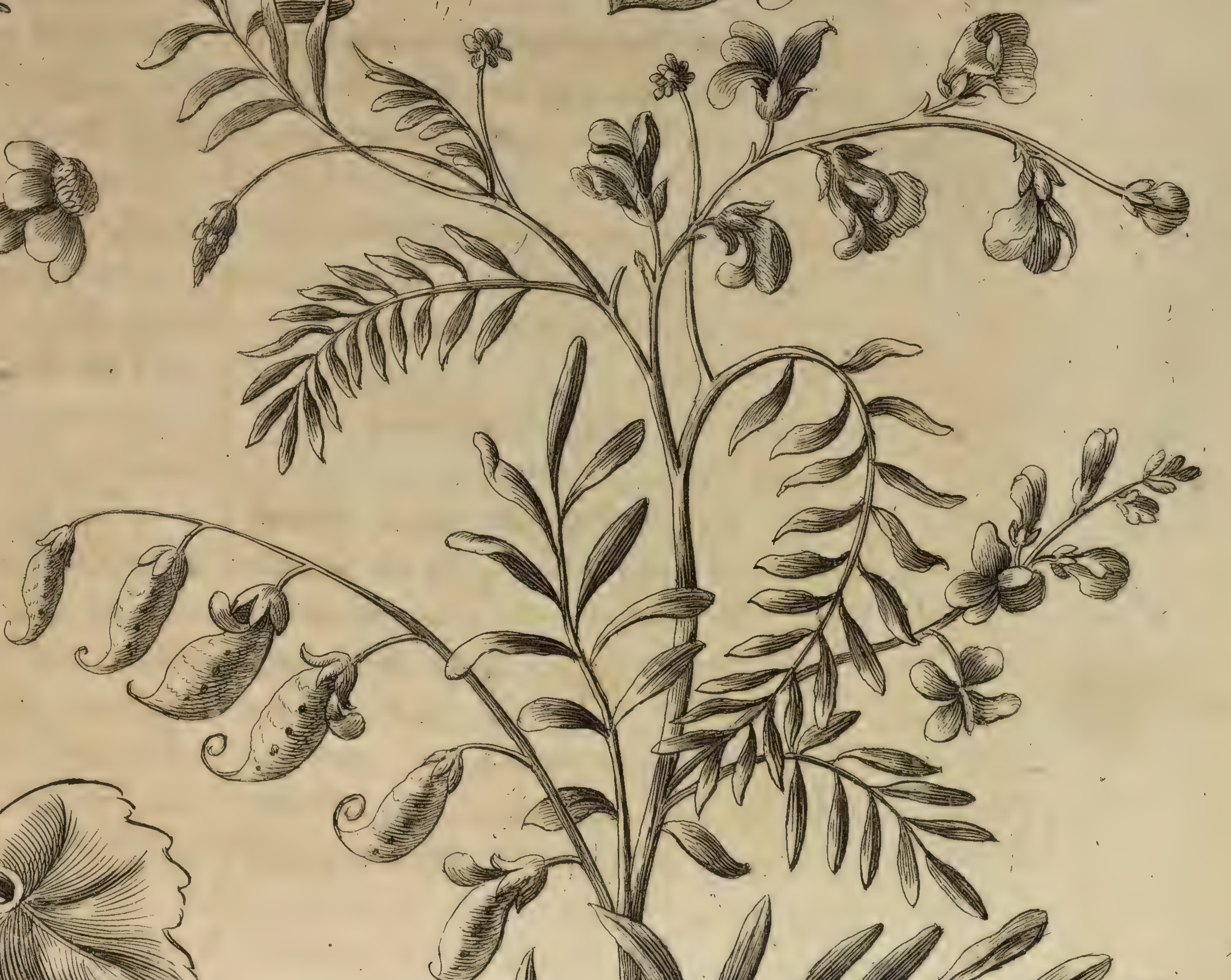
Multifid leav'd African Senecio



Crimson Oxalis



Creeping Othonna



Many leav'd American Caſsia

Time, and every Year afterwards they will be more numerous.

When the Method of raiſing from Seed is prefer'd, the Plants are to be treated in the Way of other Greenhouſe Kinds: and it is beſt to ſow the Seeds in a Pot of the Compoſt juſt directed, and to ſet it in a Bark-Bed.

When the Plants which riſe this Way are large enough to be remov'd, four or five of them ſhould be planted in one Pot, and the ſame Method taken to bring them to flowering that we have directed for the others.

5. CREEPING OTHONNA.

Plate XXIV. Fig. 5.

The Singularity of this Plant carries a ſufficient Recommendation for all the Care and Culture it requires. We read of it in moſt who have had Opportunities of examining the *African* Plants; but 'tis not till of very late Time its true Place, in a regular Syſtem, has been eſtabliſh'd.

It has been call'd a *Jacobæa*; and its common Addition of Diſtinction has been, *Hederæ terreſtris folio repens.*

Linnæus, to whom in his later Works we owe its proper Diſtinction, rank'd it, in ſome of his earlier, among the *Solidago's*; and others have follow'd him in it; but in his lateſt Works he makes it an *Othonna.*

The Reaſon will be ſufficiently ſeen when we come to examine the Flower: and he adds, as its ſpecific Diſtinction, *foliis reniformibus ſuborbiculatis denticulatis petiolatis: Othonna,* with roundiſh but ſomewhat kidney-ſhap'd Leaves, dented at the Edges, and plac'd on Footſtalks.

It is a Plant too weak to raiſe itſelf from the Ground; but with proper Supports, it will reach to ſix or ſeven Foot in Height.

The Root is long, white, tender, and hung with many Fibres.

The Stalks are numerous; and, in the State of Nature, lie upon the Ground, or hang among the Branches of Shrubs, ſpreading every Way; till from one Root a Space of many Yards will be covered. The Colour of theſe is brown toward the Ground, and green upwards.

The Leaves cover theſe irregularly: they have long Footſtalks, hollow on the upper Side, rounded below, and of a pale green Colour. The Leaves themſelves are rounded on the outer Edge, but hollow'd to receive the Stalk. They are ſharply dented on the Edges; and their Colour is a pale green, but lively; and often the Ribs are rediſh.

The Flowers cloath the Tops of all the Stalks in large Tufts, reſembling Umbells, of a looſe Compoſition; each Flower being large, and plac'd on a long Footſtalk.

Theſe are of the compoſite radiated Kind, but the Rays are few: theſe are of a pale and the Diſk are of a deeper yellow.

The Flower examined accurately, the Claſs of the Plant will be evidently diſcover'd; nor will it be leſs plain with how much Reaſon the later Authors ſeparate it from the *Jacobæa's.*

The Cup ſhews a plain Difference from all thoſe Kinds: it is not, as in them, compos'd of many Series of Scales, but form'd of a ſingle Piece, rounded at the Bottom, and divided at the Edge into about eight oblong Segments.

The Flower itſelf conſiſts, as in others of this kind, of a Diſk, form'd of a Multitude of tubular Floſcules, and ſurrounded by about eight female or ligulated Floſcules at the Edge: but this Number is not certain, any more than that of the Segments of the Cup.

The tubular Floſcules are very ſhort, and they are divided into five Segments at the Rim: in theſe are plac'd five Filaments with coaleſcent Buttons, and there are alſo the Rudiments of the female Parts, but theſe are uſually imperfect, and conſequently abortive.

The female Floſcules are flat, oblong, and naturally, when ripe, they turn back. Theſe have no Filaments; but from the Rudiment of the Seed there riſes a ſingle Style, with a large Stigma or Top, which is divided into two Parts, and turn'd backward.

From this Conſtruction of the Flower, the Student knows the Plant is one of the *Syngeneſia*: and to learn under which of the Subdiviſions of that Claſs it is to ſtand, he muſt examine it with reſpect to the Seeds. He will find every one of the ligulated Floſcules ſucceeded by a ſingle Seed; but ſcarce any will be found to follow the tubular ones of the Diſk, their female Parts being, as we have obſerv'd, abortive.

'Tis for this Reaſon ſo large a Proviſion is made by Nature in the Stigma of the female or ligulated Floſcules; they having no Filaments of their own, but depending on the Farina, from thoſe of the tubular Floſcules, for their Impregnation.

The Plant therefore is one of the *Syngeneſia Polygamia Neceſſaria*, the Impregnation from the Central Floſcules not being ſuperfluous.

Culture of this Othonna.

The Plant is a Native of the *Cape of Good Hope*, and other Parts of *Africa*. It winds among the Thickets of the *Lion's Mountain* *, ſo as to render them, by its entangled Stalks, impenetrable without great Labour; and hangs in ſtreaming Branches of eight, ten, and twelve Foot Length down the ſteep Banks of the *endleſs River* † as far up as its Source has hitherto been trac'd. The ſporting of its wanton Branches in the Winds, and the Reflexion of its perpendicular Tufts of golden Flowers from the Surface of the Water, are extremely pleaſing.

* *Near the* Cape.

† *Near the* Cape.

There Mr. Bayhere aſſures me has ſeen the Flowers on the Extremity of one Stalk, ſpread out into a circular Tuft of a Foot and half Diameter; and glow with a yellow that Gold hardly emulates.

The Soil which favours it is a black rich Mould, impregnated with the Richneſs of decay'd Vegetables; for it never thrives in this luxuriant Manner, unleſs where the Ground is mellow'd by fallen Leaves and rotted Branches of Trees, and moiſten'd in ſome Degree by neighbouring Water.

On the dryer Parts of the ſame Mountain, he ſays, the ſame Plant is a poor inconſiderable ſtraggling Weed, not a Foot in Length in its beſt Stalks, and the Flowers ſmall and few.

From this Account we learn the true Method of its Culture; and one great and univerſal Leſſon more: which is, that in a State of Nature, where the Soil and Situation do not favour it, the Plant will be very much beneath its proper Condition, even tho' it flowers; much more may it be ſo with us when rais'd by Force.

It is a biennial Plant, and muſt be propagated from Seed. This may be eaſily had from the *Cape*; the more eaſily, as the Letters of this valuable Correſpondent mention the particular Places of its Growth; or it will grow from ſuch as ripen here.

Let a Compoſt be made for their Reception, thus:

Mix two Buſhels of rich black Mould from under the Turf in a Meadow, and one Buſhel of Pond-Mud; add two Pecks of mellow Earth from under a Wood-Pile; and when all are thus blended well together, fill a Couple of Garden-Pots with them. Scatter the Seeds carefully over the Surface, and ſift over them a very thin Covering of the ſame Mould.

Set theſe Pots up to the Rim in a Bark-Bed, and give them once in three Days a very gentle Watering.

When the Plants come up, take up the weakeſt where they grow too cloſe, and leave one ſtrong Plant in the Middle, or near the Middle of each Pot; this is never to be tranſplanted: but three or four may for the preſent be left at due Diſtance in each Pot, to be remov'd afterwards.

As theſe riſe in Height, let them have Air in the Middle of the Day; and Water once in two or three Days.

About the fifth Week from their firſt Appearance, let a Couple of the beſt of theſe be planted in middle-ſiz'd Pots, and the others in very ſmall ones, leaving only the ſingle Plants intended in the original Pots.

Theſe new-planted ones muſt be ſet up to the Rim of the Pots in the Bark-Bed, and ſhaded and watered till they have taken Root: after this, they are by Degrees to be inur'd to the Air; and, at the Approach of cold Weather, plac'd in the Greenhouſe.

Early the following Spring, let thoſe in the ſmall Pots be carefully ſhook out, and planted in different warm and ſhelter'd Spots in the open Ground; and of the others, let ſome be ty'd up to Sticks, thruſt into the Pots for that Purpoſe; and others left to fall and hang their own way over their Edges.

They will all flower the ſucceeding Autumn; and, with good Management, thro' the whole Winter.

6. MANY-LEAV'D AMERICAN CASSIA.

Plate XXIV. Fig. 6.

The Beauty of this Plant, in Leaves, Flowers, and Fruit, very juſtly claim a Place for it among the moſt conſpicuous of the Exotics.

Moſt of the late Writers have mention'd it; but Linnæus has chang'd, from very ſubſtantial Reaſons, its Generical Name.

Breynius and Commeline call it *Chamæ criſta pavonis*. That Author refers it to the numerous Caſſia Kind; and placing it among thoſe with many Leaves on the ſame Footſtalk, adds, as its Diſtinction, *foliolis multijugatis glandula petioli pedicellata, ſtipulis enſiformibus.*

The *Engliſh* Reader muſt not expect a Name abounding thus with technical Terms, to be tranſlated without Circumlocution: for to render the Words *ſtipulæ*, and the reſt, as they are written in the *Latin*, tho' it be the Cuſtom of thoſe who pretend to give the Linnæan Names in *Engliſh*, is not tranſlating nor explaining them: it gives the Reader no Knowledge; and it confeſſes an unlucky Truth, that the Writer does not underſtand them.

The Senſe of the Name is this: Caſſia, with numerous little Leaves upon each general Footſtalk, with a Glandule rais'd on a ſmall Stem at the Footſtalk of the Leaf; and filmy Scales in the ſame Part of a Sword-like Shape.

So much may be convey'd by a few ſcientific Words; and leſs would not anſwer the Purpoſe for the Diſtinction of a Plant, of whoſe Genus there are ſo many Species.

The Root is white, long, and furniſh'd with numerous Fibres.

The Stalk is round, upright, branched from the Bottom, and ſo well covered with Leaves, that the whole Plant makes an extremely beautiful Appearance.

Where it is native, it riſes to four or five Foot high, and ſpreads out every way to a great Compaſs. With good Management, it will nearly reach the ſame Bigneſs with us, tho' we uſually ſee it much leſs. The Stalk is brown toward the Bottom, but upwards of a pale ſilvery green.

The Leaves are extremely beautiful; they are of the pinnated Kind; but the ſmall Leaves or

Pinnæ are plac'd alternately, not in oppoſite Pairs. There are from eighteen to two and twenty of theſe on the two Sides, and an odd one at the End.

Their Colour is a light chearful green; and they are oblong, narrow, and obtuſe.

In the natural Growth the Films and Glandules about the Baſes of the Leaves, are conſtant and uniform: the little Footſtalk of the latter riſing at a ſmall Diſtance above that of the Leaf.

The Flowers are numerous, large, and very beautiful; they are of an elegant gold yellow, and they are of conſiderable Duration.

Each has its little Cup: this is form'd of five ſmall yellowiſh pointed Leaves, united at their Baſes.

The Body of the Flower has five Petals: theſe are oblong, and rounded at the Ends; two are plac'd more diſtinct than the others, at the Bottom; and the reſt ſtanding more cloſe the whole Flower has a ſingular Aſpect. Theſe two lower Petals are alſo ſomewhat larger than the others.

In the Centre riſe ten thick Filaments, which make a very conſpicuous Part of the Flower when it is fully open: they are bent downwards; and are of a fine pale green on the under Part; but, from the Bending to the Top, yellow. They are unlike in Length; and, in their terminating Buttons: three ſtand lower, and are longer than the others; and three more ſtand ſeparate upwards, and are ſhorter.

The Buttons upon theſe are ſmall and inconſiderable: thoſe on the three under ones are very large, of a hooked Form, and terminated by a kind of Beak: thoſe on the four others are large, but they want this Beak.

In the Midſt riſes a ſingle Style, from a Rudiment of the Fruit, ſupported on a little Footſtalk.

The Seed-veſſel is a Pod reſembling thoſe of the leguminous Kind, but divided by croſs Partitions. The Seeds are large and black. The Pod itſelf is green at firſt; and, as it ripens, becomes brown, with a Tinge of red; and at laſt nearly black.

The Flower is as full of Beauty as Singularity; for the Colour of the Body of the Petals is perfect gold, and their Bottoms are purple.

The Student will know, in the Midſt of all the Singularities he finds in the Body of the Flower, that the Number of the Filaments is to denote the Claſs of the Plant; and conſequently that it is one of the *Decandria*; the tenth in the LINNÆAN Syſtem.

There are Variations in the Length of Filaments, which being common to many Genera, and invariable in all, become the proper Diſtinctions of Claſſes: ſuch are the two longer in the *Didynamia*; and the four longer in the *Tetradynamia* of the LINNÆAN Syſtem: but this Singularity in the Caſſia being peculiar to that Kind, does not become the Mark of a Claſs, but very juſtly ſupports the LINNÆAN Method, in joining under one Generical Name all the Plants which have it. The ſingle Style ſhews this alſo to be one of the *Monogynia*.

Culture of this CASSIA.

It is a Native of the warmer Parts of *America*; and with us will never attain its full Beauty and Perfection but in a Stove.

'Tis to be rais'd from Seed; and the ſame Compoſt we directed to be made for the laſt mentioned Plant, will very well ſuit this; for it grows naturally in the ſame kind of damp, rich, and mellow Soil.

Early in Spring let a Couple of Pots be fill'd with this Compoſt, and about twelve of the Seeds laid at regular Diſtances on the Surface of each. Let a quarter of an Inch of the ſame Mould be ſifted over them; then let them have a gentle Watering: then ſet them up to the Rim in a Bark-Bed.

When the young Plants appear, let them every other Evening be gently water'd, with Water that has ſtood all Night in the Bed; and at Noon, when the Days are mild, let them have a little Air. When the Nights are cold, let them be defended, by laying Mats over the Glaſſes.

Thus let the young Plants be manag'd till they are three Fingers Breadth high, and they muſt then be remov'd each into a ſeparate Pot, and plac'd again in the Bed, watering them every Evening, and carefully ſhading them till they have taken Root; after this, the Waterings are to be repeated once in two Days; and every Day at Noon when the Weather favours.

The Beds muſt have Air, by opening the Glaſſes; but let the Gardener remember theſe are Natives of a hot Climate, and impatient of ſevere Cold. Therefore let the Beds be covered at Sun-ſet with Mats or Cloths, and uncovered an Hour and half after Sun-riſe, till the Summer is well advanced, and the cold Nights are over.

After this, as they grow larger, they muſt be ſhifted into bigger Pots; and when they reach the Glaſſes of the Frame, they muſt be brought into the Bark-Bed in the Stove. They will there flower all Winter.

CHAP. II.

The Management of the Flower-Garden, Greenhouſe, and Stove.

THIS Week let the Gardener pot his Carnations, from which he expects a Shew of Flowers, and let it be done with Care.

Let him chuſe for this Purpoſe ſome one of our light rich Compoſts; or in Time make one purpoſely, with good Paſture-Earth, Pond-Mud, old Cow-

Feb. Cow Dung, and a little Soot.

Let them be taken up with as much Earth as will hang about their Roots; and one placed in the Middle of each Pot, ſpreading the extream Roots to their full Extent, without bending or confining them. Then ſnip off the Ends of theſe Roots with a Pair of ſharp Sciſſars, and immediately pour in the Mould; a little at a Time: ſee that it gets in among the Roots; and when they are cover'd up to the Baſes of the Leaves, give a little Water.

When all are thus potted, ſet them in a Place open to the South Eaſt, and defended from the North Winds.

Here they are to remain two Months; and once in four Days they ſhould be water'd, and now and then the Surface of the Mould ſtirred about them: this will bring them to a due Strength and Condition for placing upon the Stands where they are to flower. The farther Management of them we ſhall ſhew at that Time.

Take good Care of the Auricula Plants; for they now will ſhew their Buds for flowering. It will be of great Uſe to ſtir the Earth very lightly upon the Surface in all the Pots; and once in four Days to give them a gentle Watering.

Let the Gardener with a careful Eye look over his Ground to ſee if any thing has miſs'd which was planted in Autumn, or if there be any Vacancy which he left unſupply'd at that Time; in ſuch Places let him now plant the perennial Catchflies, Foxgloves, and Gentianella's.

Theſe Experience ſhews ſucceed happily when planted at this Seaſon; and all that is requir'd for the ſecuring this, is to open the Holes large enough, to take up the Plants with a good Quantity of their own Earth; to ſpread their Roots well out, and clip off their ſmall Extremities before the new Mould is pour'd over them. After this, with due Waterings, the Newneſs of the Soil will make Amends for the Check of taking them out of the Ground, and they will ſucceed as well, or very nearly ſo, as thoſe planted in Autumn.

Let the Gravel-walks be now very well cleaned; and broke up where there is Occaſion; and let no Root of any perennial Weed be left in them. The ſlight Offſpring of Annuals from ſcatter'd Seeds will be eaſily rooted out without breaking the Surface, afterwards; and the Walk being clear'd of theſe, may be rolled hard for the ſucceeding Uſe in tolerable Weather.

Let the Orange Trees in the Green-houſe be now carefully examin'd; and where they are in a drooping Condition, let them be refreſh'd by removing into new Earth.

Let this be done with a great deal of Care; and let the Gardener obſerve that the Expedition of performing the whole Operation, is one great Article in its Succeſs.

Feb. Let him place his freſh Earth ready, and then examining the Tree to ſee what Part is decay'd, and what found, let him firſt of all cut away the dead Branches.

Then with warm Water let him very carefully waſh the Trunk, and principal Boughs; and then take them up.

Let him examine the Roots carefully; and if any be decay'd or mouldy, let him cut thoſe carefully out; then trimming the extream Fibres of all the others, let him plant them immediately in the new Mould, ſhaking the Tub at Times to make it ſettle well among the Roots.

When it is all in, let there be a gentle Watering given it; and then let a Piece of Matting be carefully wound round the Stem to keep it from drying or cracking.

In this Condition let them be again ſet in their Places, and as the Seaſon will now grow warmer every Week, and more Air may be admitted into the Green-houſe, they will recover with the Aſſiſtance of moderate but frequent Waterings.

This is to be the Practice with thoſe which are but in a declining State; but ſuch as are farther gone muſt be treated with more Care: and little leſs Trouble will be requir'd for them than for ſuch as are to be brought to make their firſt Shoots.

Theſe are to be treated in all Reſpects as the former, till they are compleatly new ſet; only that the Heads muſt be pruned cloſer, and the Roots waſh'd as well as the Stems; and they are then inſtead of being put into their old Places, to be ſet in a Bark-bed in a Stove: then from time to time they muſt be water'd, Head and Stem as well as Root, with Water that has ſtood four and twenty Hours in the Stove.

With this Management they will ſhoot freſh.

Let all the other Plants and Trees be carefully look'd over and clean'd: let dead Leaves be pick'd off; and all Filth, whether from Inſects, Mouldineſs, or of whatſoever kind, be waſh'd away.

When the Earth has not been ſtir'd upon the Surface, let it now be done; and a little freſh Soil from ſome proper Heap of Compoſt, of the Nature of that which beſt ſuits the Tree, be ſprinkled over it.

After this, as the Weather is becoming milder, and will permit more Air to be let in, let the Trees and Plants be water'd more largely; but let the Water for theſe alſo ſtand a Night in the Houſe before it is uſed, that it may be of the ſame Temperature with the Air of the Place.

SECT. II.

The Buſineſs of the SEMINARY, for this Week.

LET a Piece of Ground be clear'd and prepared for planting Evergreens; a very good Seaſon for that being now approaching.

Care muſt be taken that the Earth in which they are planted be not too rich, and that no Weeds remain in it to rob them of the proper Portion of Nouriſhment.

It is fit the Ground where they are rais'd ſhould be poor, that they may thrive in the Places where they are afterwards to be planted: but then whatever Nouriſhment there is in a Piece of Ground thus proper to receive them, they ſhould have it entire, not be rob'd of it by other Plants.

Therefore when a proper Part of the Seminary is fix'd upon for this Purpoſe, let ſome freſh Earth from a barren Paſture be ſprinkled over it an Inch deep: then let it be dug up to a good Depth; this new Mould work'd in, and every Root of a Weed taken out.

This is the more needful to be done now, becauſe it is almoſt impoſſible to clear the Ground of theſe Plants when the proper ones are in.

When it is well broke, let it be thrown up in Ridges till it is level'd for planting.

If there be mild Weather this Week, let the Gardener get all the hardy Kinds of Trees and Shrubs, which he intends to plant, into the Ground: cloſing the Earth well about them; and covering it with Pea Straw about the Roots.

If Currant and Gooſeberry Buſhes are wanted; and the planting of Cuttings have been omitted in Autumn, or have not ſucceeded, this Week will be a very proper Time for it.

Let the Piece of Ground ſelected for them be in a ſhaded Part of the Seminary; and let them be carefully ſet, cloſing the Earth well about them; and watering them from time to time till the Spring Rains come on.

They will root freely enough; and in two Years will be fit to plant out where they are to remain.

In the Time of their Growth in this Place, the Gardener ſhould trim them up for the Purpoſes they are intended to anſwer.

If they are to be planted free in Borders, it will be beſt to deſtroy the lower Shoots, that they may riſe with a Head, and a naked Stem: and if they be intended for planting againſt Walls or Pales, they muſt be train'd flat, encouraging the Side Shoots, and ſtopping thoſe which grow forwards.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THIS Week ſhould be finiſh'd the dreſſing of Eſpalier Hedges. All the Branches that have been properly train'd for them, muſt now be ty'd down in the due Places; and this muſt be done with Care not to hurt the Courſe of their Sap by the Tightneſs, nor to ſuffer them to rock with the Wind; for in that caſe they will rub againſt the Wood-work, and wound themſelves.

Fruit Trees of every kind may be planted now; and in Places where the Ground has a Clay Bottom, or for any other Cauſe ſuffers the Wet to lodge, this is a ſecurer Seaſon than Autumn: for as the Roots are during Winter nearly in a State of Reſt, the Wet lodging about them will deſtroy them.

This Week let the careful Gardener, if the Seaſon be mild, graft his Pears.

The Stock for this Purpoſe is an Article of great Conſequence, and not enough either regarded or underſtood.

There are three Kinds of Trees commonly raiſed for Stocks for grafting of Pears: theſe are, the Pear itſelf, the Quince, and the common Hawthorn.

Some uſe one or other of theſe indifferently; others prefer for all Purpoſes one particular Kind: but theſe general Maxims are both wrong.

Let our Gardener underſtand the Nature and Properties of all the Kinds, and then uſe which ſuits his Purpoſe.

The Pear Stock is the freeſt Grower of them all, the Quince next, and the Hawthorn ſloweſt of all.

From this is derived the firſt general Direction, which is, that where other Circumſtances are equal, the Pear Stock is fit for a Standard Orchard Tree, the Quince for a Wall Pear; and the white Thorn for a Dwarf.

But after this Conſideration of their Manner of Growth, we are to enquire what Effect they have upon the Fruit.

The Pear Stock makes the Fruit incline to Softneſs and Mellowneſs; the Quince Stock gives a Firmneſs and Roughneſs to it: and the Hawthorn, though not remark'd by Writers on Gardening, is apt to make the Fruit hard at the Core.

For this Reaſon the Pear Stock is beſt ſuited to the harder Kinds of Fruit; the Quince Stock to thoſe of the ſoft melting Kind: the Hawthorn will be found leſs valuable than either, and only ſuited to thoſe baking Pears whoſe Core is taken out.

For the raiſing a ſoft Pear for a Dwarf Tree, or an Eſpalier, we ſhall direct the Quince Stock, and let this be budded, or grafted cloſe to the Ground.

All the melting Pears may be thus propagated very ſucceſsfully; but the Rule ſhould be univerſal againſt the breaking Kinds, becauſe in dry Summers they always are ſtony at the Core when this Stock is uſed.

The breaking Pears never ſucceed ſo well as when they are grafted upon Stocks raiſed from the Kernels of the melting Pears.

The Grafts muſt be very well ſecured by Clay; for the Seaſon of drying Winds is coming on; and if that be not well done, all the Labour is loſt.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THIS Week let the Gardener begin his ſowing of Cabbages and Savoys for Winter Service. A Fortnight hence would be a better Time to put in Seed for the large Crop, but it will be very proper to begin with a ſmall Parcel now, becauſe they will come in at ſo acceptable a Time.

Let him remember what we have ſaid concerning the repeated planting and ſowing of Peaſe and Beans; and let the ſame Practice, though in a leſs Degree, be transfer'd to this Part of the Ground.

Let him dig up the Piece he intends ſhall ſerve for the Purpoſe; and this Week ſow a ſmall Quantity in the warmeſt Place; next Week let him ſow more, and ſo on till about three Weeks hence he ſets in the laſt Parcel.

Let him ſpread over this Piece of Ground a good Quantity of old rotted Dung from a Melon Bed, and a little Coal-aſhes. Let him dig and work theſe well in; and when he has levelled the Surface for a ſmall Part of the Ground, let him ſow ſome common white Cabbage and Savoy Seed: the next Week it will be proper to ſow a ſecond Parcel, larger than the firſt, and the third the Week after, the reſt. But as all theſe require the ſame Management, we ſhall take this Opportunity of laying it down in a plain and familiar Manner.

In about a Month from the Time of ſowing, the Plants will be of a Height for their firſt Removal; and this muſt be ſucceſſively done, in the ſame Manner, with regard to the ſeveral Crops.

Let a Piece of Ground be dug up when the firſt are of due Bigneſs, and let it be in a ſhelter'd and ſhaded Place; let Lines be drawn along, and acroſs at four Inches and a half Diſtance, and in the Centre of every Square made by theſe Lines place one Plant. Let it into a handſome Hole, and draw the Mould properly up to the Stem. When they are all in, let them have a gentle Watering.

As ſoon as they are planted, let a Piece of Ground be dug up for receiving them finally, where they are to grow to their full Bigneſs.

The Quantity of Ground for this Purpoſe is to be determin'd by the Number of Plants, for they ſhould ſtand a Yard diſtant every Way. Let not this ſurprize the Gardener: we know it is more than he allows, but we know alſo, that it is not more than ſufficient.

In Places where Cabbages are raiſed for Sale, Ground may be ſpared by planting them between the Rows of other Crops, as Artichokes, and the like; this may be learn'd in every Gardener's Ground about *London:* or where there is want of Room, a Practice of that kind muſt be admitted elſewhere; but in no caſe let the Gardener attempt to encreaſe the Value of his Crop, by placing more than we have mention'd in this laſt Piece of Ground; for he may be aſſured, that if he plant thirty in the Compaſs, wherein, according to our Method, there ſhould ſtand only twenty, the whole thirty will not be worth half the other Crop which has been allow'd free Room for the Fibres to ſpread; and has been ſet in a Ground prepared, as we are about to direct, to receive the Plants.

The Quantity of Ground being fix'd upon, according to the Number of the Plants; let the Dung of an old Melon Bed, and ſome freſh Paſture Earth, about equal to the Dung in Quantity, be ſcatter'd over it, and dug well in.

When it is well mix'd and broke, let the whole be thrown up in Ridges, and lie in that Manner three Weeks. Then let the Ridges be levelled, and the whole well wrought. Let it lie one Week more to ſettle, and then let the Plants be taken up, and regularly planted at the Diſtances we have directed, by drawing Lines for that Purpoſe: here let them have a gentle Watering; and every Evening repeat it till they have very well taken Root.

The Seaſon by this Time will be advanced toward *June*, and the Earth will grow dry: it is a large Spot to water conſtantly; but there is a Method of Culture greatly preferable.

The Requiſites for the good Growth of theſe Plants, are Freedom from Weeds, and a due Quantity of Moiſture at the Roots: both theſe may be given at once by digging between them; and they are by theſe Directions placed at ſuch a Diſtance, that this can be done with great Eaſe.

The common Method of managing them is by hoeing the Ground to deſtroy the Weeds; and watering them as they require it; but this latter Method being very troubleſome, is often neglected, and the Plants ſtarve accordingly.

Every one knows that the Effect of digging is a radical Deſtruction of Weeds; that the Hoe only cuts off their Tops, but the Spade takes out their Roots: this Advantage therefore is ſo great, that were there no other it very well anſwers for the greater Trouble: but we are to acquaint the Operator, that this digging gives Moiſture to the Ground.

This is, perhaps, new Doctrine to the Gardener, but it is not the leſs true: there is no contradicting Experience. There falls in the Night a Moiſture upon all Ground, and that which is dug and well broken, receives it the moſt freely, and detains it longeſt.

The Dew that falls upon a Piece of Ground with a hard Surface, does not penetrate half an Inch; and is dry'd by the Sun and Wind in an Hour in the Morning; whereas that which falls upon a Piece where the Surface is free and open, penetrates eight or ten Inches, and lies too deep to be blown off by the Winds, or thoroughly reach'd by the Sun. This the ingenious Mr. *Tull* found in the Field; and we have experienced it in the Garden.

That Gentleman ſays,* he always found that in the drieſt Weather good Horſehoeing (which of all the Field Operations comes the neareſt to that of the Spade) always procured Moiſture to the Roots.

We have given the Reaſon, and the Effect is evident. The Damps of the Night penetrate in this well broken and open Ground, and lodge about the Roots where the Sun's Heat that begins to raiſe them up, at the ſame Time warms them about the Roots, and ſets the Plant to growing.

Beſide this, there is the Advantage from digging we have before explain'd in its breaking off the Roots at their Extremities; whence new Fibres are thrown out innumerably, and have a free Earth to ſhoot in.

For all theſe Reaſons, we adviſe the Gardener who follows theſe rational Inſtructions, to dig with the Spade inſtead of hoeing between the Plants; and we can aſſure him that once performing this Operation, will anſwer for three Times of the other.

Let it be repeated occaſionally as the Weeds appear, and as the Ground ſhews Dryneſs; and every Time the Earth is thus dug, let ſome fine Mould be drawn up in a little Hill about the Bottom of every Plant, two Inches higher than the general Surface.

Beſide this, we ſhall adviſe the Gardener in dry Seaſons to allow ſome Water to the Plants: they will thrive the better for it; and one Watering will thus anſwer in the Place of five.

This Work of digging being at proper Intervals repeated through the Summer, the Gardener will early in Autumn find his Reward.

The firſt ſowing of the Cabbages will be fit to cut; and himſelf and the Family will be equally ſurpriz'd at their Bigneſs in the Heart, and at their delicate Flavour.

From this Time he is to go on cutting them as they ripen, and as they are wanted. At the Approach of Winter he muſt draw up the Mould about the Stalks of thoſe which remain; to prevent the Froſt from entering to the Root; and he will thus keep them alive, and in Vigour, during the whole hard Seaſon.

This Direction at large we have thought proper to give concerning this uſeful Plant; and the ingenious Workman will find it may be apply'd to many other of the large growing Kinds with the ſame Advantage.

Toward the End of this Week let the Gardener look to thoſe Beds of the finer Kind of Lettuces, the Cos and others, which, if ſown according to our Directions in the preceding Numbers, will be now ready to tranſplant.

For this Purpoſe let a Bed of rich light Mould be well dug, and mark'd by Lines longways and acroſs, into Squares of a Foot Breadth.

Into every one of theſe let there be one Lettuce ſet; and let the Ground be carefully drawn up, and cloſed about the Roots. After this let them every Morning have a gentle Watering; with Water that has ſtood all Night in the Houſe.

In the taking up theſe from their Original Bed, let as many be left as the Ground can well maintain for growing to their Bigneſs; and let the ſtouteſt Plants be left for this Purpoſe.

In the taking up the others, let theſe be left at a Foot Diſtance every Way, and let the Ground be laid ſmooth between them. After this they muſt have a gentle Watering every other Morning; and having had no Check from a Removal, they will grow to their due Size very quickly; and come in at an extreamly valuable Time.

When theſe are all cut, the tranſplanted ones will juſt come in; and thus a Succeſſion will be kept up without any Stop.

The Care of our *Auguſt* Beans muſt be continued as we have before directed: and we ſhall here, for the Service of thoſe who ſhall hereafter practiſe that Method, inſert the Practice of a worthy Correſpondent, by which he has been accuſtom'd to bring them to Perfection.

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* Horſehoeing Huſbandry, Ed. 3. Page 52.

To the PROPRIETORS of the COMPLETE BODY of GARDENING.

GENTLEMEN,

I HAVE read Mr. STEPHENSON'S *Method of managing Beans ſown in* Auguſt: *I will aſſure you it is a Secret; for I have not ſeen it practis'd in above three Gardens, and even they had their Knowledge firſt from me. I fully purpoſed to reveal to you my Way of managing them; but Mr.* STEVENSON *has deliver'd my former Method exactly.*

I ſhall now add ſomething to it, and inform you of a Way that I have contrived of late to preſerve them thro' the Winter, which I find to be better than by Glaſſes.

I prepare a Reed-Hedge, in all Reſpects like that I uſe for Auriculas, Carnations, Cauliflower Plants, &c. *only this is moveable, as I call it; that is, this Hedge moves at the Top, being made into Pannels ten or twelve Feet long.*

To every Pannel there are two Iron Hinges at the Bottom, for it to move on. Then about five Feet from the Bottom of the Hedge, that is, about a Foot from the Edge of the Border under the Hedge, and exactly between the Pannels; that is, againſt where the Pannels part, there is a ſtrong Support fix'd perpendicular.

When the Hedge is at its proper Elevation, the Top of it comes cloſe to theſe Supports: but then there are Pieces of Oak, two Inches broad, and three quarters of an Inch thick, with Holes bored in them at proper Diſtances: theſe Slips are fixed at the Top of the Reed-Hedge, ſo as to come on each Side of the Support. There are Holes bored alſo in the Support, for good ſtrong Pins to go thro' the Slips, that are to make them faſt to the Support, and to ſtay the Hedge.

The Slips ought to be ſo long as to reach down from the Top of the Hedge when it ſtands perpendicular to the Supports. Now it is eaſy to conceive, that by the Help of theſe Slips the Hedge may be fixed at what Elevation you pleaſe.

I put the Beans into the Ground in Auguſt, *in an open Spot of the Garden, and tranſplant them into this Border when they have got three Inches high, obſerving to water and ſhade them till they have taken Root.*

The Hedge may remain perpendicular, for them to receive the Dews, until the Cold comes on, ſo as to be too ſharp for them: only in heavy Rains it ſhould be lower'd, and Mats hung before them, to keep off beating Showers: for the Mould on the Border ſhould be got pretty dry before Winter, that the Froſts may not have too much Power on it.

I ſet the Plants in Rows, from the Hedge to the Front; three Inches Diſtance in the Rows, and two Feet Row from Row: and I throw ſome Pulſe, or ſome other ſhort Covering, between the Rows in Winter.

Tho' theſe Hedges over-hang, yet beating Rains will come at the Plants if not prevented by the Mats; and this ſhould not by any Means be neglected, neither for theſe, or Auriculas, Carnations, or Cauliflower Plants, or any thing that is planted under theſe Hedges; for I obſerve Wet to be as great an Enemy as the ſevereſt Cold.

In the Spring theſe Hedges will require to be ſet perpendicular, for the Plants to receive Rains and Dews, and for Room for them to grow. This is all the Difference between Mr. STEVENSON'S *Method and mine. The cutting of them down, and every thing elſe, being the ſame as in his.*

I am, Sir,

Your moſt humble Servant,

T. BARNES [*].

Now let the World judge between us and the Author of the *Gardeners Dictionary:* Could there be any thing improper in our adviſing from Reaſon, what has been, tho' unknown to us, brought ſucceſsfully into Practice? Or what muſt be the Judgment of that Perſon in his own Buſineſs, who declar'd a Thing impracticable, which he here finds a Country Gardener has ſeveral Years practis'd himſelf, and taught his Friends ſucceſsfully?

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[*] Gardener to *William Tomſon*, Eſq; at *Elſham*, near *Brigg*, in *Lincolnſhire*.

EDEN:

A
COMPLEAT BODY of GARDENING.

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NUMBER XXV.
For the Latter End of *FEBRUARY.*

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SECTION I.
FLORA, or *the* PLEASURE-GARDEN.

CHAP. I.
Flowers and curious Plants now in their Perfection.

1. DIAMOND MESEMBRYANTHEMUM.

Feb.

Plate XXV. Fig. 1.

WHILE this was new in the *European* Gardens, none caus'd more Admiration; or more worthily: a large Plant ſpreading its Branches every Way in a wild and pleaſing Irregularity; and covered, Branches and Leaves all with Gems, might well attract the Eye, and fill the Mind with Wonder. Cuſtom and Familiarity have render'd it leſs regarded by the common Obſerver; but he who ſearches into the Cauſes of Things, muſt underſtand it more before he ceaſes to wonder.

The Spangles with which it is adorn'd; which cover it with a gloſſy Whiteneſs in the Shade, and glitter in the Sun, have caus'd it to be call'd after various ſuppos'd Reſemblances; and even its proper Generical Name has not been ſettled till of late Time; LINNÆUS having eſtabliſhed the diſtinctive Characters.

The Vulgar call it the *Ice Plant.* In the Authors who firſt named it, 'tis entitled the *Silvery Ficoides*; and our Gardeners of later Time, from its full Luſtre under an improv'd Culture, have nam'd it the *Diamond Ficoides.* In *Holland* it is call'd the *Cryſtalline Ficoides.*

DILLENIUS names it *Meſembryanthemum cryſtalinum plantaginis folio undulato,* in his Account of the *Eltham* Garden. And LINNÆUS, to the ſame Generical Name, adds, *foliis alternis, ovatis, obtuſis undulatis: Meſembryanthemum,* with oval, obtuſe, and undulated Leaves, plac'd alternately.

Feb.

The Root is hung with innumerable Fibres.

The Stalks ſpread themſelves every Way; leaning upon the Ground, and forming, when the Root is well nouriſh'd, a Circle of very conſiderable Expanſe, from four to ſix Foot in Diameter.

The Stalks themſelves are thick, round, and full of Juice, and every one ſends Branches off in great Number and with perfect Irregularity.

The Leaves are oblong, thick, juicy, obtuſe at the End; and undulated, and often rais'd at the Edges. In thoſe Plants which flower freely they are ſmaller; in ſuch as do not, they are three Inches long, and two in Breadth.

The Colour of the Stalks and Leaves is a very fine green; and they are covered thick with ſhining Particles, reſembling, according to the different Vigour of the Plant, and the Light wherein it is view'd, Spangles of Silver, Flakes of Ice, Fragments of Cryſtal, or Sparks of Diamonds. They are perfectly tranſparent and colourleſs; and of uncertain Form. Theſe give a glorious Luſtre to the Plant; and often there is, beſide this, ſome Variety of Colouring, even before it flowers;

the Places where the Leaves are inſerted having a Tinge of Purple; and the Tips of many of the Leaves being browniſh.

The Flowers are numerous, and of a very ſingular Appearance. They riſe from the Stalks by very ſhort Pedicles, and are in Colour white, with a faint Tinge of Purple. This is principally ſeen on the Extremities of the Petals, and on their under Side; and it goes off as the Flower attains its full Maturity. The Tinct is beſt ſeen on the Head of the Bud; and here it is uſually of a bright purpliſh Crimſon.

No Flower demands more than this the Attention of the Botanical Student, or more deſerves his Notice.

The Cup is form'd of a ſingle Piece, divided by five Cuts at the Edge.

The Petals, which compoſe the Body of the Flower, are innumerable: they ſtand in ſeveral diſtinct Series, and are long, narrow, undulated, and ſharp-pointed; and on tracing them to the Baſe, their Bottoms are found to coaleſce and unite into a kind of Ring; ſo that they may, if the Student pleaſe, be call'd ſo many Segments of a *monopetalous* Flower.

In the Centre ſtand numerous Filaments, very ſlender, and crown'd with incumbent Buttons: and in the Midſt of them appear five Styles. Theſe have their Origin from five obtuſe Angles, which terminate the Rudiment of the ſucceeding Fruit, plac'd below the Receptacle of the Flower.

The Fruit is a round fleſhy Capſule, with a Dent; mark'd with five Rays, and containing numerous roundiſh Seeds.

Such is the Structure of this moſt ſingular Plant: the Claſs is eaſily determin'd from the Origination of the Filaments: theſe we have ſeen are numerous, and they will be found to ariſe from the Inſide of the Cup, not from the Receptacle: the Plant is therefore one of the *Icoſandria*; and the Number of the Styles refers it to the *Pentagynia*.

Culture of the DIAMOND MESEMBRYANTHEMUM.

The Plant is a Native of *Africa*, and thrives there in a mellow and light Soil. This we ſhould imitate, and then its Culture is eaſy.

It muſt be nurs'd with Care in Spring, for the Colds elſe will kill it; but ſoon after *Midſummer* it may be brought out into the open Air, and open Ground. This laſt is the frequent Practice of our Gardeners, but it is not what we adviſe: the Plant that Way comes into Beauty with a Multitude of others, and fades with the firſt Froſts. We ſhall propoſe a Method by which it may continue, thro' Winter, an Ornament to the Greenhouſe; the more valuable for the Time when there are ſo few Things in Perfection.

This is the Seaſon for raiſing it; and let the Gardener take the following Method:

The Seeds ripen freely with us when manag'd properly; and theſe grow freely. The Plant is an Annual, and is to be rais'd from them on a Hot-Bed. Let them be ſcatter'd with Care upon ſome rich Garden-Mould, laid four Inches thick upon a common Bed of Dung; and let a quarter of an Inch of the ſame Mould be ſifted over them.

As ſoon as they are put into the Ground, let the following Compoſt be made for the Plants:

Mix a Barrow of rich Meadow-Earth, a Buſhel of Pond-Mud, and a Peck of old Cow-dung: add to theſe a Peck and half of coarſe Sand; and blending the Whole well together, throw it up in a Heap to the Weather.

When the Plants riſe let them be very gently water'd; and as ſoon as it can be ſeen which are the ſtrongeſt, let the weaker be pull'd up, leaving only as many as are intended to be rais'd, at due Diſtances. Here they may ſtand to gather a little more Strength, and they muſt then be remov'd into ſeparate Pots.

Let as many ſmall Pots be prepar'd as there are Plants; and let an Oyſter-ſhell be laid over the Hole of each, to keep it open. Then let them be fill'd with the Compoſt, and the Plants one by one taken carefully up and ſet in them. Give them a gentle Watering, and ſet the Pots up to the Rim in a Bark-Bed, ſhading them with Mats till they are thoroughly rooted.

If there be not a Bark-Bed in Readineſs, a common Hot-Bed of Dung will do; but in this Caſe, the Pots muſt be remov'd from one to another, as the Heat declines: in the Bark-Bed it keeps up the whole Time theſe and ſuch other Plants need be preſerv'd in it; and this is the great Advantage Bark has over Dung.

In this Bed they are to be water'd at Times; and as the Seaſon grows more mild they may be inur'd to the Air.

In the Beginning of *July* they may be taken out of the Bed, and plac'd among the Greenhouſe Plants.

Here begins the various Management; and it will be proper to give them all the Opportunities of Beauty and Excellence of which they are capable, by treating them in the different Manners.

At this Time of their taking from the Bed, let ſome be kept for flowering, in the uſual Way; others planted for ſpreading and ſhewing the Beauty of their Leaves; and others manag'd for living all the Winter.

Let the firſt Kind be treated as other Greenhouſe Plants, and no otherwiſe. Then let thoſe which are intended for ſpreading, be planted in a warm and well ſhelter'd Place in the open Ground, allowing them a large Space to cover, and planting them in ſome of the Compoſt, thrown into a Hole of the Bed for that Purpoſe.

While thoſe treated in the uſual Manner flower abundantly, theſe will attain many times their Size, but produce few Flowers, or perhaps none.

Thoſe Plants intended for Winter muſt be taken up, and ſet in ſomewhat larger Pots, ſhaking off a good Quantity of the Mould from their Roots. They muſt be water'd and ſhaded till they have taken Root; and this muſt be repeated once in ſixteen Days.

At every Time of tranſplanting, thoſe Branches which have Flower-Buds upon them muſt be taken off; and by this Means the Plants will be put backward more and more at every Plantation.

At the Approach of Winter they muſt be taken into the Greenhouſe, and tranſplanted no more: they will then ſettle themſelves for flowering: but it will come on ſlowly; and they may be kept all Winter.

2. PROLIFEROUS DATURA.

Plate XXV. Fig. 2. Beauty and Singularity unite in the Flower of this Plant, and both in a very great Degree. We admire the Two-in-a-hoſe Cowſlip, and with Reaſon, for there is great Prettyneſs in it; but with how ſuperior an Attention ſhould we regard this, which, with a Colour vaſtly preferable, is more than forty times its Bigneſs.

Let not the Botanical Reader ſuppoſe it a Variety of the common Thorn-Apple: the Flower of that is white, and its Fruit oblong: this is indeed a Variety, but of another and much more elegant Species, whoſe Flower is purple, and its Fruit round.

BAUHINE and the old Writers deſcribe this in the ſingle State of the Flower, under the Name of *Solanum pomo ſpinoſo rotundo, oblongo flore.* Some, *Stramonium fructu rotundo.* In the elegant Variation of which we write here. ALPINUS and VESLINGIUS call it *Datura.* This Name LINNÆUS adopts for the Genus, and adds, as its Diſtinction in this Species, *pericarpiis ſpinoſis nutantibus globoſis: Datura*, with round prickly drooping Fruit.

The Root is long, thick, divided, reddiſh, and of an ill Smell.

The Stalk is robuſt and upright, but divided in a very beautiful Manner into Branches.

It will grow, with good Culture, to five Foot in Height; and ſpreading its Branches every Way will form a round and regular buſhy Head; which, when cover'd with its moſt elegant Flowers, diſputes the Prize of Elegance with moſt of the Vegetable Kind.

The Colour of the Stalk is naturally purple at the Bottom; and upwards alſo, and throughout the whole Courſe of the Branches, its natural pale green has a purpliſh Tinge.

The Leaves are numerous, ſingular, and not without their Beauty. They have robuſt Footſtalks: they are oblong, and ſharply ſerrated. Their Colour is a blackiſh green; and they have purpliſh Veins.

The Flowers are very large and elegant: they riſe one within another, and are on the Outſide of a glowing Purple, mix'd with Crimſon; and within of a pure and perfect ſnowy Whiteneſs. This Riſe of one Flower in another is a Luxuriance of Nature; but 'tis not, as in many Caſes, the mere Effect of Culture.

The Plant is wild about the *Cape of Good Hope* in this elegant and conſpicuous State, and is figur'd ſo in the *Hortus Malabaricus.*

A Cup receives the Bottom of this Flower, of an oblong Shape, tubular, and form'd of a ſingle Piece, ſwoln at the Bottom, mark'd with five riſing Angles upwards, and at the Rim divided into as many Segments. 'Tis peculiar in this Cup, that it is neither permanent, nor deciduous entirely. It falls, as if cut off horizontally near the Baſe, leaving a rounded Piece behind, which we have figur'd adhering to the Fruit.

The Body of the Flower is form'd of a ſingle Petal, and is of the Funnel Shape: it is a Term us'd by the Botanical Writers for many Flowers; but there is not one with which it agrees ſo well as this. It is narrow at the Baſe where receiv'd into the Cup, and from this Part it ſwells out into a vaſt Hollow.

There run ſeveral Ribs along the Body of the Flower. Five are moſt conſpicuous; and at the Rim it is cut in five Places, or when luxuriant into many more, but five are principal. The Segments grow narrow to the Point, and end in a kind of crooked Tails.

This is the ſimple Flower; and the Variety of Purple and Snow-white in this, give it enough of Beauty; but in the moſt elegant State it is proliferous: another Flower riſes from within the Hollow of this; as this from the Hollow of the Cup: and in Shape is perfectly the ſame with the other.

Nature, when ſhe thus becomes wantonly profuſe, fixes herſelf no certain Bounds: two, three, or four Flowers will ſometimes riſe from one Cup thus one within another, and add ſtill to the Elegance.

To know the Claſs of the Plant, its Parts of Fructification muſt be examined; and theſe are always moſt diſtinct in the ſimpleſt Flower. Let the Student chuſe ſuch a one; and tearing it open he will find within, five pointed Filaments, terminated by oblong, obtuſe, and compreſs'd Buttons; and among theſe a ſingle Style, with a Top form'd of two Plates.

The five Filaments ſhew the Plant one of the *Pentandria*; and its ſingle Style declares it one of the *Monogynia*: the fifth Claſs of LINNÆUS and its firſt Section.

Culture of this DATURA.

It is a Native of *Africa* and of the *Eaſt-Indies.* The Seeds ripen freely, and it muſt be rais'd from them in a Compoſt ſuited to it, in Compariſon of that Soil wherein it thrives beſt in a State of Nature. It is found in low Grounds, in a rich black Soil, where rotted Leaves have

Feb. made the Ground mellow, and where it is not fully open to the ſcorching Sun.

To imitate this Soil, let our Gardener mix equal Parts of rich Meadow-Earth and River-Mud; and add to this a little rotted Cow-dung. This being ready, let the Seeds be ſown.

Theſe ſucceed beſt if brought from *Africa*; but with due Care the Plant will ripen them with us; and this ſhould never be omitted, leſt we loſe the Means of a Supply.

Let the Seeds be ſown upon a common Hot-Bed early in Spring, and rais'd with the uſual Care to the Time of a ſecond Tranſplantation; but let them be then remov'd, not into another Hot-Bed, but each planted in a ſeparate Pot fill'd with the ſeparate Compoſt, and ſet up to the Rim in a Bark-Bed.

Theſe early ſown Plants are for ripening the Seed; but let ſome others be rais'd later, to be tranſplanted often; and kept back in the flowering, that they may be a Glory to the Greenhouſe during Winter. The Management of all is to be the ſame.

They muſt be ſhaded till they have taken Root, and water'd frequently; and, after this, the Noon-Day Air muſt be admitted, by raiſing the Glaſſes more and more largely by Degrees; and in the Heat of Summer they muſt be ſet out in the open Air. Feb.

Here the Earth muſt often be ſtirr'd at the Surface of the Pots; and they muſt every Day be water'd.

Thoſe which flower firſt muſt be watch'd with Care; and the firſt open'd Flower mark'd for Seed. This is not a known Practice, but I have found it very ſucceſsful. The Seeds of this Flower are always the ſtrongeſt, and raiſe the moſt vigorous Plants.

Let this Plant be watch'd, and not ſuffer'd to exhauſt its Strength by too much flowering; and let the others be encourag'd to flower, by taking off the faded Bloſſoms, not letting them be ſet for Seed.

At the Approach of Winter the Plants muſt be remov'd into the Greenhouſe, and ſcatter'd here and there among the reſt; upon the Principles we have eſtabliſh'd for placing the Pots: here they will flower one after another, and will amply return the Pains taken to preſerve them.

3. NEPENTHES.

Plate XXV. Fig. 3. Reader prepare for Wonder! The Plant we introduce to you in this Place exceeds all elſe in Singularity; and they may well be excus'd who treated the firſt Notice of it as an idle Tale.

Our Voyagers firſt gave Account of it, and their uncouth Deſcriptions were not credited: but when Men of better Knowledge ſaw it growing, when Specimens were receiv'd in *Europe*, and its Seeds rais'd Plants in our Gardens, thoſe who had diſbeliev'd it, hung their Heads, and wiſh'd to be often ſo put of Countenance.

Our firſt Knowledge of it was under the not ſtrange tho' unſcientific Name of the Wonderful Plant, *Planta mirabilis:* ſo it ſtands character'd in the *German* Ephemerides.

Burman, in his Account of the *Ceylon* Plants, calls it *Bandura.* Our Plukenet, *Utricaria vegetabilis Zeylanenſium.*

Linnæus, in his *Hortus Cliffort.* names it *Nepenthes*; and he preſerves this Title in his later Works. There needs no Epithet of Diſtinction, for there is no other Species.

It has been call'd by others, *Gentianæ Species*; and *Priapus Vegetabilis.* Its *Indian* Name is *Auramatico.* Flacourt has deſcrib'd it under this.

Breynius may lead the Student into an Error, imagining there are more known Species. He calls this *Nepenthes Zeylanicum flore minore:* but what he calls *Nepenthes flore majore,* is the *Saracena.*

This we have deſcrib'd in a preceding Number; and the Student will ſee preſently the Plants are utterly diſtinct in Genus. There needs therefore no Addition to the plain Word *Nepenthes* in the Name of this.

The Root is thick and brown, furniſh'd with many Fibres of a reddiſh Colour: of an inſipid Taſte, with ſome Aſtringency.

The Stem is two Foot high, round and firm, and is in many Parts ting'd with a faint Purple.

The Leaves have no Footſtalks: they are oblong, moderately broad, highly rib'd, and furniſh'd each with a kind of Veſſel at its Extremity.

The Leaf itſelf, which is narrow at the Baſe, grows broader toward the Middle, and thence decreaſes gradually; but where it might be expected to terminate, the long Point it is continu'd in a kind of Horn. This hangs down for a conſiderable Length, ſwelling very gradually in Thickneſs, and from this loweſt Part turns up again, expanding into a hollow Veſſel, three Inches long, and half an Inch in Diameter, terminating in a large Opening, which is cover'd with a kind of Lid, all of one Piece, and ending in a narrow ſlender Tail.

Such is the amazing Structure of this Leaf and its Appendage: the Uſe of ſo ſingular a Conſtruction we ſhall examine hereafter: we are now to proceed to the Examination of Characters of the Plant.

The Flowers terminate the Stalk in conſiderable Numbers: they are placed on ſhort Footſtalks, and their Colour, when in Perfection, is yellowiſh, or greeniſh; ſometimes they are rediſh, and ſometimes whitiſh.

What makes this conſpicuous Appearance is the Cup, for there are no Petals. This is form'd of a ſingle Piece, but is divided deeply into four oval Segments: theſe ſtand wide expanded, and mimick ſo many Petals by their Colouring as well as Form, but they remain to defend the Fruit.

In the Centre riſes a ſhort Style, ſimple in Form, and terminated by an obtuſe Top; and upon its Summit are placed four Filaments, ſo very ſhort, that they are only diſtinguiſh'd by their Buttons.

The Seed Veſſel is columnar, oblong, angulated, and mark'd by four Ridges. Theſe ſhew the joinings of four Valves, of which it is compoſ'd, and it opens in four Places: the Seeds are numerous and light.

From the Situation of the Filaments, the Student will know he is to determine the Claſs to which this Plant belongs in the LINNÆAN Syſtem. They grow upon the Style. This is the Mark of the *Gynandria*; and their Number ſhews the Plant to belong to that Section, which comprehends the *Tetrandria*.

The Reader is impatient to return to the Account of thoſe ſtrange Appendages, which are continued from the Extremities of the Leaves.

They are ſo many Veſſels containing a clear, wholeſome, and well taſted Water, which has ſaved the Lives of many periſhing in thoſe hot and dry Climes with Thirſt.

Theſe Veſſels from the Beginning turn upward, that they may hold the Liquor; at firſt their Colour is a whitiſh green, afterwards they become yellow, and in the End purpliſh. The little Piece falls over them very cloſe while ſmall, but when they are of the full Bigneſs, and replete with the Water, they gape; and in the End the Weight of the Liquor bears down the Veſſel; it runs out, and then the Part fades.

The Liquor contain'd in theſe ſtrange Veſſels is Water, little or nothing alter'd by the Plants: and the Veſſels themſelves are the dilated Extremities of ſecretory Glands.

Things which appear moſt wonderful become familiar when a continued Obſervation leads the Way to them. Glands of this Kind are very common in Plants; tho' rarely ſo conſpicuous. They cover the whole Stalk in the Diamond *Maſembryanthemum*; in the *Urena* they are ſituated on the Back of the Leaf, and in the Sundew on its upper Surface. All theſe ſecrete a watery Fluid, but 'tis in few Inſtances that is detain'd in a kind of Veſſel.

We ſee it ſo, however, in the Leaves of the *Saracena*; in the *Maregravia* in a kind of Veſſels raiſed from the Centre of the Umbel; and in this Plant, not in the Leaf itſelf, but a peculiar Appendage. This is the LINNÆAN Doctrine, and this Nature confirms.

Where Moiſture is redundant, whether Nature affords, or injudicious Labour give it in that Quantity, it muſt, and it will be diſcharg'd. We ſee the Sundew, a minute Plant, throw it out in big round Drops. In the *Æthiopian Calla*, when over ſupply'd with Water, the fine and ſlender Extremities of the Leaves ſweat out the Load in continued Drops. This COMMELINE ſaw in *Holland*; as well as we in *England*; and in the *American Harts-tongue* the ſame Incident propagates the Plant.

The fine and ſmall End of the Leaf is there bent to the Earth by the Weight of the Drop it gradually ſecretes: another and another follows, as it remains in that Situation; and the Plant being full of Life takes Root there, and produces a new Stock, itſelf fix'd to the Earth by Roots at each Extremity.

Theſe are known Inſtances of a Secretion of this Kind, tho' not generally underſtood; and this in the Nepenthes is little more.

The Plant grows in thick Foreſts, where its long Fibres ſupply it well with Water, and no Sun comes to exhale it.

At the End of its Leaves are placed Glands, as in the others; but here they ſwell with the increaſing Liquor; and furniſh a Supply, ſo deſign'd by Providence, for the Preſervation of perhaps more than the human Species.

The Quantity produced on a ſingle Plant is ſufficient to quench the Thirſt of the moſt deſpairing Traveller; and by the Marks of Teeth upon the faded Veſſels, it is evident Beaſts often ſupply their Wants at the ſame plenteous Source.

Culture of the NEPENTHES.

The Plant lives only in thick Foreſts, where the Soil is mellow, rich, and light.

This muſt be our Guide in preparing a Compoſt for its Reception; and the Warmth of its native Climate declares that it will require our beſt Care in the Stove. We beſtow it on many Things leſs worthy, and let it not be ſpared for this.

The Seeds ſhould be procured from *Ceylon*, or other Places where the Plant is Native: and for the Soil, a Mixture ſhould be made of the moſt rich Garden Mould, with one-third Part Earth from under a Wood-pile; with a little Marle, and about as much harſh Sand. A Quart of each of theſe laſt Ingredients will be enough for a Buſhel of the whole.

This ready, let the Seeds be carefully ſown upon it in two or three Pots, ſifting over them a Straws-breadth of the ſame Compoſt.

Set theſe Pots up to the Rim in a Bark-bed of moderate Heat; and refreſh the Mould, if it grow dry, with frequent gentle Waterings.

When the young Plants appear, water them alſo gently, and frequently. Pull up the weakeſt; and leave only four or five in each Pot: here let them get ſome Strength, and then prepare as many ſeparate Pots for their Reception.

Fill theſe with the ſame Compoſt; and place upright in each one of the Plants.

Feb. Set theſe Pots up to the Rim in the Bark-bed, and ſhade them with Mats drawn over the Glaſſes till they are well rooted: after this let them have a little Air in the Middle of mild Days; and when they have ſtood about three Weeks in this Place, remove them into the Stove. Feb.

Whether they flower or not is of little Conſequence, the Leaves afford ſufficient Wonder.

4. AFRICAN DROSERA.

Plate XXV. Fig. 4. We propoſe here to the Curious a little Plant, ſingular in its Kind for a Garden Ornament; and though a Native of the warmeſt Parts of *Africa*, capable of bearing unhurt our Climate in a full Expoſure.

Moſt who have treated of the *African* Plants have named it. HERMAN calls it, *Ros ſolis folio lato:* and RAY, *Ros ſolis foliis prælongis.*—LINNÆUS, who has adopted for the Genus the Name *Droſera*, adds as the Diſtinction of this Species, *foliis lanceolatis*, *ſcapis radicatis:* Lanceolate leav'd Droſera, with the Flower-ſtalk naked from the Root.

It is not unlike in the general Form to the Sundews of *Europe*; but larger, and more conſpicuous than them all; and of a finer Colour.

The Root is fibrous, and rediſh.

The Leaves are numerous, and very elegant. They riſe from the Root by a narrow Baſe, and at the Height of an Inch begin to ſwell out into Breadth. They are largeſt in the Middle, and they terminate in a ſharp and fine Point. The univerſal Tinct is red, a Mixture of a browniſh Caſt obſcures the full Glare of the Colour, but there is with this ſomewhat of crimſon and of purple.

They are cover'd with numerous long and ſtiff Hairs: theſe are of a tawney rediſh; and they are moſt frequent at the Edges.

Upon the Surface of theſe Leaves ſtand large round Drops, of a tranſparent Fluid, reflecting the Colour of the Hairs; and glittering like Gems.

The Stalk which ſupports the Flowers riſes with theſe, and exceeds them conſiderable in Height.

The Length of the Leaves when in full Perfection, is about five Inches, and their Breadth half an Inch; but this Stalk will grow to a Foot in Height; and riſes tolerably erect and firm. Its Colour is a purpliſh brown; and it has neither Leaves on it, nor Branches.

The Flowers grow in a ſhort Spike at the Top, eight or ten, not more; and they are ſmall. They do not open freely; but when they approach to it, their Milk white Colour affords a fine Contraſt with the red of the whole Plant.

The Seed Veſſel is of an oblong Form, and contains in a ſingle Cell many ſmall Seeds.

Each Flower has its ſeparate Cup, form'd of a ſingle Piece, dented in five Parts at the Edge; and of a pale green Colour, ting'd with red.

The Flower is form'd of five Petals; and theſe throw themſelves into the Shape of a Bell. In the Centre ſtands five Filaments, ſhort and ſlender, and among theſe riſe five Styles. This ſhews the Plant to be one of the *Pentandria* of LINNÆUS, the fifth Claſs in that Author's Syſtem; and one of the *Pentagynia*.

Culture of this DROSERA.

It muſt be raiſed from Seeds; and that it may be we have Experience. Mr. *Sherrard* from Seeds pick out of the Heads of Specimens, of the Plant from the *Cape*, raiſed ſeveral promiſing Roots upon a Bog.

'Tis thus we muſt endeavour its Culture. Naturally, like our Species of Sundew, it lives upon the Surface of Bogs, trembling with the leaſt Motion, and ſupported by a wet Mud. There it ſpreads out its ſhining Leaves in wild Profuſion; and mocks the hotteſt Sun: the Liquid Gems that decorate them never evaporating without freſh Supplies.

It is only in Gardens where there is damp ſhelter'd Ground, that we adviſe the propagating this Plant; there it will riſe with the Saracena; and ſome others we ſhall occaſionally name hereafter; and give a peculiar Excellence to Spots of Ground before diſguſtful and offenſive.

The Method muſt be to procure the Seeds from *Africa*; and to ſow them early in Spring in ſuch Ground, juſt opening the Surface to receive them. They will here ſhew at leaſt their Leaves, and theſe have ſufficient Beauty: not improbably they will alſo flower, and propagate themſelves.

The pearly Drops upon the Surface of the Leaves in this Plant, and in our common Sundew, are Secretions of the ſame Nature with the Fluid, which fills the ſtrange Vaſe of the *Nepenthes*: the Work of Glands ſituated for that Purpoſe, to diſcharge redundant Moiſture.

Diamond Mesembryanthemum

Proliferous Datura

Nepenthes

African Drosera

Pearl Aloe

The Sensitive Plant

B. Cole ſculp.

5. PEARL ALOE.

Plate XXV. Fig. 5. The Gardeners know by the Name *Pearl Aloe*, two or three different Species; but when that Title is uſed without Addition, it ſhould be underſtood to mean the Plant whoſe Figure we have given from Nature in Plate 25. and whoſe diſtinctive Characters we are about to explain.

Commeline has called this Species *Aloe Africana folio in ſummitate triangulari.* Van Royen, *Aloe foliis ovato ſubulatis acuminatis tuberculis cartilagineis undique aſperſis:* and Linnæus in his laſt Work, *Aloe floribus ſeſſilibus bilabiatis, labio ſuperiore erecto inferiore patente.* Aloe with bilabiate ſeſſile Flowers, the upper Lip erect, and the lower patent. The Word ſeſſile is ſcarce applicable to it, and the preceding Name which very happily deſcribes the Form of the Leaves, is preferable.

The Root is thick, and variouſly divided.

The Leaves are very numerous, extreamly ſingular in Form, and whether we regard their Shape or Diſpoſition, full of Beauty.

They riſe cluſter'd together, and diſplay themſelves variouſly, ſome nearly upright, ſome flat upon the Ground, and others at different Angles.

All are of the ſame Shape, and Hue; and the Points of all turn upwards. They are thick and fleſhy; their Colour a very lively green, and they are covered in a various and irregular Manner with Spots, and riſing Tubercles: theſe are of a firm Subſtance, and in Colour of a pearly white, and they are moſt conſpicuous on the younger Leaves.

The Shape of the Leaf in this Plant is not leſs remarkable than the Ornament: it is of an oval Form in the whole, but that the Point is immoderately long and ſlender; toward this Point the Leaf grows triangular, and the Extremity is tip'd with crimſon. This, with the fine green of the Body of the Leaf, and its pearly Protuberances, give a delicate Variety: but the Points are moſt red on the old Leaves; and theſe have the Tubercles leaſt diſtinguiſhable.

The Stalk is two Foot high, and towards the Top uſually divides into three or four Branches. It is round, green, ſmooth; purpliſh at the Bottom, and without Leaves.

The Flowers want Colour to make them beautiful, but they are numerous and ſingular enough in Form. They cover the Tops of all the Branches in a kind of Spikes. Each has its very ſhort and ſlender Footſtalk, and is tubular in the Body, and expanded in ſix Segments at the Rim. There is ſome Tinge of red often at the Baſe of the Flower; and the reſt is of a whitiſh green. The Diviſion at the Rim is ſo far ſingular, that it forms two rude Lips, of which the upper turns a little back.

There is no Cup to this Flower, but in its hollow Part riſe ſix Filaments and a ſingle Style. Theſe refer it to the *Hexandria Monogynia* of Linnæus, the ſixth Claſs, and its firſt Section.

It is a Native of *Africa*, and is to be propagated as the other *African* Aloes from Suckers.

The Method we have given at large in a preceding Number, treating of another of theſe Species.

6. THORNY SENSITIVE PLANT.

Plate XXV. Fig. 6. We give the Gardener here the general Name Senſitive, ſuited to many Species of the *Mimoſa*, with various Additions uſed to expreſs them all; and with the Epithet, thorny, uſually apply'd to this; which poſſeſſes the Quality that Term deſcribes of ſhrinking from the Touch more delicately than many others.

Breynius calls it, *Mimoſa ſpinoſa tertia ſiliquis parvis echinatis*; and by the ſame Name it is deſcribed in ſeveral of the ſucceeding Authors.

Linnæus, much more correct and diſtinctive, calls it, *Mimoſa foliis ſubdigitatis pinnatis caule aculeato hiſpido*, prickly rough ſtalked Mimoſa, with the Leaves pinnated, and diſpoſed in a finger'd Manner.

The *Engliſh* Name *Senſitive Plant*, tho' appropriated to this Genus in common Acceptation, has been given to many others. The Quality of receding from the Touch being not peculiar to the *Mimoſa*, but inherent alſo in one of the Wood Sorrels very ſtrongly, which thence obtain'd early the Name of the *live Plant*, *Herba viva*; and in a leſs Degree in many others.

The Root is divided into many Parts, and hung with Fibres.

The Stem is round, as thick as a Gooſe-quill, of a browniſh Colour toward the Baſe; and greener near the Extremities; and is beſet at Diſtances with ſmall brown, hooked, and ſharp Prickles.

The Height is about two Foot, and it divides into innumerable Branches. The Bark on the lower Part uſually cracks and grows rough, but on the younger Shoots it remains always ſmooth.

The Leaves are very ſingular and beautiful. Each is ſupported on a long tender Footſtalk, which often droops with it; and is compoſed of five, ſix, or eight Parts, placed in the fingered Manner, and each of theſe is regularly pinnated; the Pinnæ oblong, ſmall, and extreamly numerous.

The Colour is a freſh, but not very dark green; and the Pinnæ, and their ſupporting Ribs naturally ſtand all wide expanded, but on a

Touch with the Hand, or only on the Motion of the Air in an Approach toward touching it, they collapſe and as it were fade.

After a little Time of Reſt the Ribs riſe to their proper Places again; and the Leaves expand with their firſt Vigour.

The Flowers are numerous, and they are collected into a kind of round Heads, placed on ſlender Footſtalks at the Extremities of the Branches. They are of a greeniſh white at firſt, but afterwards they acquire a Tinge of purple.

Each has its ſmall Cup, form'd of a ſingle Piece, and divided by three irregular Indentings at the Rim: this forms the Body of the Flower, for there is no Petal.

The Filaments are only four, very long, and very ſlender; and they are terminated by incumbent Buttons. In the Midſt of theſe riſes a ſingle Style.

The Number of Filaments in other of the *Mimoſæ* is much greater; and refers the Student, thus far inſtructed in the Science, to their Origin, for the finding its Claſs. They riſe from the Receptacle, and he is therefore to refer the Plant to the *Polyandria*; the ſingle Style ſhews it one of the firſt Section of that Claſs, the *Monogynia*.

This, if the ſtrict Rule of Science be obſerv'd, does not belong to the ſame Claſs with them: LINNÆUS has, however, placed it among the others, conſidering the general Agreement of Parts, as a Mark of its being a *Mimoſa*, altho' it differs from them in a Point ſo eſſential. It agrees indeed neither with the eſtabliſh'd Character of the Claſs or Genus in which this Author has placed it.

Culture of this SENSITIVE PLANT.

It is a Native of the *Brazils*; and with us requires a Stove: but with due Care it will riſe to full Perfection.

In favourable Summers it will indeed live many Months in the open Air; but there are two very ſubſtantial Reaſons why the Gardener ſhould not ſuffer it: there will be great Difficulty in keeping it alive through the Winter after this Expoſure to the Air; and it will loſe in a great Meaſure the wonderful Quality for which it is rais'd, that of drawing in its Leaves on the Touch.

This in a great Meaſure depends upon its Tenderneſs, and when harden'd by the cool Air, and accuſtom'd to its Motion by the Winds, theſe Things will have leſs Effect upon it.

For this Reaſon let not the Gardener try how much Cold the Plant will bear; but keep it in a State of delicate Senſibility.

It muſt be raiſed from Seeds; and the beſt are thoſe brought from *South America*; but when ſuch cannot be had, it will grow freely enough from ſuch as are ripen'd in our own Stoves.

Early in Spring let ſome of theſe be ſown upon a common Hot-bed, cover'd four Inches with rich Garden Mould.

When the Plants appear, let them be thin'd where they grow too cloſe; and only as many left as are intended to be raiſed; beſide a few for Caſualties.

When they are three Inches high, they muſt be tranſplanted each into a ſmall Pot, filled with the richeſt Garden Mould; and when theſe have had a gentle Watering, they muſt be ſet up to the Rim in a Bark-bed of moderate Heat. Let the Glaſſes be cover'd with Mats, to ſhade the Plants till they are perfectly rooted; and after this let them by Degrees be harden'd a little by admitting a ſmall Quantity of Air in the Middle of a mild Day.

When the Plants are grown to ſome farther Bigneſs, they muſt be ſhifted out of theſe Pots into larger.

The Way is to ſhake them out with the entire Lump of Mould; and trimming the ſtraggling Fibres, to ſet this upon a little of the freſh Mould in the new Pot; and fill up with more.

In theſe Pots they muſt be again ſet up to the Rim in the Bark-bed; and ſhaded till they have recover'd the little Check of this Removal. They muſt then be water'd at Times; and have ſome Air admitted in good Days; and when they have acqnir'd a handſome Size, they are to be removed into the Stove.

* * *

CHAP. II.

The Management of the Flower-Garden.

THIS Week let a warm and well ſhelter'd Border be dug up, and broke very fine; and upon this ſow ſome Seeds of Annuals. There is not a Certainty of their Succeſs, but if the Weather prove favourable, it is not improbable they may riſe; and they will flower ſtrong; and ripen their Seeds in Time, becauſe they will have no Check of Removal.

Tranſplant into the Borders, where there is any Deficiency, ſome Roots of *Fraxinella*, and ſome of the handſome *Hieraciums*; they will ſucceed perfectly well at this Seaſon.

But in all Spring Plantings of fibrous rooted perennial Plants, let the Gardener obſerve to ma-

Feb. nage every thing for forwarding their immediate Growth, otherwiſe they will be very much behind thoſe planted in Autumn. To this Purpoſe let a large Hole be open'd for each, and the Mould be very well broke.

Let the Roots be taken up with Care, keeping a large Lump of their own Earth about them. Let them be ſet into the Hole lightly and carefully; the Ends of the Fibres all trim'd off; and the Mould immediately thrown in upon them, and ſettled well to them; cloſing it carefully about the Head of the Root, and finiſhing all by a ſlight Watering.

Next let the Gardener examine the Condition of thoſe hardy Spring Flowers which are planted in the Ground among Flowering-ſhrubs. Let him break the Surface of the Earth between them and all about them, and clear away the Weeds.

This will anſwer a double Purpoſe: it will not only give the Roots freſh Strength to flower, but by clearing the Spot will ſhew thoſe Flowers to the beſt Advantage: and it will ſtrengthen the Shrubs, and prepare them for their Spring Shoot with Vigour. Feb.

This done, let the Graſs-Walks be examined and clean'd up. Let them be mow'd and laid even, and the Sides cut perfectly ſtrait: and let all the Gravel be well roll'd.

Laſt of all this Week let the Pots of choice perennial Plants be clean; and the Roots refreſh'd in the Manner we directed for the Auriculas in a preceding Number.

Let all dead Leaves be pick'd away; and let the Earth be broken at the Surface, and taken out an Inch or more in Depth, with Care not to wound the principal Roots: then let the Ends of thoſe Fibres that appear be ſnip'd away with Sciſſars; and immediately pour in ſome freſh Mould from one of the Heaps of Compoſt ſuited to the Nature of the Plant; and when it is fill'd up let there be a gentle Watering. This will greatly encourage the Shoot for a Stalk, and the Effect will be ſeen all Summer.

SECT. II.

The Buſineſs of the SEMINARY, for this Week.

LET the Gardener dig up the Ground about ſuch Trees as have ſtood ſome Time in their Place: they will ſhoot the more freely for this, and they will be the fitter for removing.

Wherever the intended Trees, for this Seaſon's tranſplanting, are not in the Ground, let the Places be prepar'd to receive them, and the Opportunity of a mild Day after Froſt be taken for the Buſineſs. The beſt Weather is ſuch as inclines to Rain, for the very Dampneſs of the Air will aſſiſt.

In ſuch a Day let them be carefully planted, well ſecur'd, by fixing the Mould about the Roots; and, if needful, by Stakes. They will gradually ſhoot out Fibres; and, in dry Soils, will ſucceed thus better than at any other Seaſon.

We directed in a former Week planting Cuttings of Gooſeberry, Currant, and ſome other ſmall Shrubs: but without Care, this early Seaſon, ſo advantageous with good Management, will be deſtructive.

Let the Seaſon be regarded, and theſe Cuttings manag'd accordingly. If it be now ſevere Froſt, let the Ground all about them be cover'd with ſome Peaſe-ſtraw, and Bricks or Pebbles laid upon it to keep it down firm. This will mellow the Soil, keep out the Froſts, and encourage the Cuttings to root.

On the contrary, if the Seaſon be mild, only let the Surface, once a Fortnight after their Planting, be broken with a Hoe between them. Watering it is not likely they ſhould want; for mild Weather at this Seaſon is uſually attended with Rain.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THE Gardener is employ'd, according to our Directions in this Part, in planting Fruit-Trees where they are wanting; and we ſhall here add, to the Directions given on that Head, ſome uſeful Cautions.

In the firſt Place, if the Care we have directed to be taken of theſe Trees, while in the Nurſery have been obſerved, they will be ready to come up freely, and in proper Condition.

The great Article in that Part of the Ground, is that digging between them which we have mentioned; for if they be left in an undug Soil, their Roots will ſpread every way to a Diſtance, and few Fibres will be produc'd near the Stem.

In this Caſe, when they come to be taken up, the Roots are cut off at a ſmall Diſtance; and all that comes with the Tree is their thick naked Part. This will hold no Earth about it, nor will any Part of it readily draw Nouriſhment. Yet this is the Method too commonly us'd; whence the Trees, if planted in Autumn, rot; and, if in Spring, wither. This is one great Source of the ill Succeſs of Plantations. But they find no Fault who ſell the Trees: the Purchaſer is told theſe Things will happen; and the Nurſery-Man has a new Demand.

On the other Hand, when the Ground is frequently dug between and round about theſe Trees while in the Nurſery, the Shoots of every Root being frequently ſhorten'd, Fibres are ſtruck out in Abundance near the main Stem; and theſe will hold together a good Ball of Earth, for the taking them up at a Time for Tranſplanting, and will furniſh Nouriſhment till the new Roots are ſtruck.

For this Reaſon let the Owner, if they be rais'd in his Seminary at Home, ſee the Earth be dug at Times about them; and if purchas'd in a diſtant Nurſery, let him take Care they are found in a Piece of Ground that has been dug.

Next to this Article of their being in a proper Condition for taking up, comes the Manner of doing it. The Succeſs of the Plantation in a great Meaſure depends upon this; and nothing is in general done ſo careleſsly.

A Spade is ſtruck down in four or five Places round about them, and then they are pull'd or twiſted up. Thus, many of the Roots not cut by the Spade, are crack'd and torn, and the reſt parted but roughly. Beſide, this Method cuts off all the Roots too ſhort. 'Tis expeditious; but in a Garden there is no Need for this Hurry; and it always hurts the future Growth.

The longer the Roots are left the better the Tree will grow; and the leſs they are injured the quicker it will receive Nouriſhment.

Let the Gardener pare away the Surface about the Tree he is to take up, till he diſcovers the principal ſpreading Roots: then dig a Trench round the Roots, at ſuch Diſtance from the Stem as is proportioned to the Bigneſs of the Tree: the larger it is, the longer the Roots will be requir'd to nouriſh it.

Let him take away the Mould from under the Tree, and obſerve to leave as much as will hang about the Roots; which, according to our Management, will be a very conſiderable Quantity. Then let him cut off the Roots at this Diſtance with a ſharp Knife; and by this Time let the Hole be open'd to receive the Tree; making it at leaſt half a Foot wider than the full Extent of the Roots when cut.

Inſtead of pulling up the Tree, let a Hand-Barrow be carefully drawn under it; and upon this let it be carry'd to the Place: then let it be again examined in every Part of the Root; and if any of the Ends be ragged, bruis'd, or broken, let them be cut off with a ſharp Knife, ſloping downwards.

After this, the Conſideration comes of fixing them in the Earth, and this is to be done in a different Manner from the common.

When they have been taken up with this Care, they bring, in a great Meaſure, their own Earth with them: and ſhaking them and violent treading down, would only force it off, and render the former Care fruitleſs.

Let the Hole be about fifteen Inches deep, and the Surface at the Bottom of it well broken. Let the Tree, with its Ball of Earth, be ſet carefully upright in it; and as there will be a Space every way about it, let this be fill'd with the Mould firſt thrown out of the Hole, obſerving to get it into every Crevice. This is eaſily done, when Time is taken for the Planting; and but little is put in at once.

Then let the Mould be brought up to ſome ſmall Thickneſs over the Surface of the Lump or Ball brought with the Root, and give a gentle Watering.

This is the Method of planting with Security, when the Trees are brought only out of one Part of the Ground to another, or from a very near adjoining Nurſery; but as it frequently happens that they muſt be purchas'd at a Diſtance, we ſhall add ſome Rules for the bringing them to the Ground in the beſt Condition.

The uſual Method of Packing is with Straw about the Roots, and a Mat over it: but if this be not done with very great Care, it often fails; and many Accidents will happen in Spite of the beſt Caution.

Moſs is vaſtly preferable to Straw upon this Occaſion; and as it is every where plentiful enough, it ſhould always be us'd.

The Loſs of theſe Trees generally happens from the drying and withering of their Roots: this is but ill prevented by Straw; but Moſs will very ſecurely defend them.

It is the Quality of Moſs to receive and retain Water like a Spunge; and being put about them when moiſt, it will continue ſo to the End of any moderate Journey. It has alſo the farther Advantage of clinging much cloſer to the Roots.

Any Moſs will anſwer the Purpoſe, by being gather'd when full of Dew; but there is one Kind preferable to all others. This we have nam'd, on a preceding Occaſion, for its Uſe in detaining of Moiſture.

It is a white Moſs, very large, and growing in thick Tufts upon Bogs. If this be too moiſt, let a little of the Wet be ſqueez'd out; and in the ſame Manner in the other Kinds: let them be wound about the Roots, and plac'd between them; and when the Whole are well cover'd, let there be Straw and Mats put about them as uſual.

This will anſwer in the common Way of Carriage for Trees of any Size; but there is a yet better and more ſecure Method for thoſe which are taken up ſmall, and train'd for Walls.

As theſe lie flat, a Hamper will hold a large Parcel of them; and the beſt Method will be to have one made for the Size and Quantity of the Trees.

Let the Bottom of this be well cover'd with Moſs, and the Trees then laid in, with good Quantity of Moſs between and among their Roots: this will ſecure them againſt every kind of Danger; and they may be carry'd the longeſt Stages in the Kingdom, and receiv'd in as good Condition as if firſt taken up.

The Methods of taking up and carrying theſe Trees to their Places, with the Rules of planting them being thus laid down, the ſole remaining Conſideration is the pruning of the Heads or Branches. This is a peculiar Thing in regard to Fruit-Trees; and we ſhall therefore ſpeak of it particularly.

We have obſerv'd, in general, on a preceding Occaſion, that the Top of a Tree ſhould always be reduc'd at the Time of Planting, becauſe leſs Nouriſhment than uſual will for ſome Time be drawn by the Root.

But in Proportion, as by this careful Method we have directed, more Roots are preſerv'd in a growing Condition, and more Earth is detain'd about them, a better Head may be left than ought to be when they are remov'd more rudely.

With Regard to Fruit-Trees, the common Practice errs in leaving too many Branches upon them, and in cutting thoſe too ſhort. The Conſequence of thus leaving a greater Number of Stumps than can be needed, is, that Nature throws out too many Branches, and thoſe irregularly.

Experience is too powerful for all the Authority in the World; and this ſhews that for whatever Service the Trees are deſign'd, whether for Walls, for Dwarfs, or Eſpaliers, or for common Standards, the Branches will be too many; they will ſpoil one another; and the cutting them out the next Year is but an imaginary Cure: for thoſe which are left, will, from this, become too luxuriant in uſeleſs Growth, and will bloſſom late and poorly.

Six Inches is the common Length allow'd; and they who leave them eight think they exceed Diſcretion; but the Conſequence is, that if the Branches thus ſhortned be of more than one Year's Growth, they commonly periſh: for their Buds are flat from much ſhading, and often will not open. At the beſt they expand but ſlowly and imperfectly, and the Branch ſickens and decays. There muſt be ſome Part left for Vegetation, to draw up the Sap receiv'd by the Root, or all will come to nothing.

The ſtrongeſt Buds are fitteſt for this Purpoſe, and theſe are ſuch as grow neareſt the Ends of the Branches, not thoſe toward their Inſertion at the Stem: therefore it is theſe Buds which ſhould be retain'd upon the Tree; and the Method is plain, there muſt be fewer left, and thoſe few muſt be longer.

Standard Trees are all prun'd at Planting in this wrong Manner, and all hurt by it, tho' in various Degrees, according to their Condition.

If the Head of the Tree be but one Year old, this ſhort Cutting brings out the new Branches too near; the Head will be too full, and the Boughs will gall one another; nor can Air get in to ripen the Fruit and give it a good Taſte.

In thoſe which have Heads of two or three Years old, the Damage is much greater: the bloſſoming Buds and Rudiments of Spurs in many Kinds are cut off by this Method. Therefore let the Quantity of Head reduced, be proportioned to the Roots loſt; and let the Branches be fewer and longer.

SECT.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THIS Week let the Gardener dig up three Pieces of his Kitchen Ground, and raking them well, and laying them perfectly level, let him on one ſow ſome Radiſh Seed, on the other ſome Spinach, and on the third Lettuce.

Theſe will come into Service at a very agreeable Time; and to keep up a Supply, there ſhould once in a Fortnight, for ſome Time, be a Repetition.

Let a Piece of very rich Ground be dug up under a warm Wall, and ſown with young Salleting. This ſoon grows too large for Uſe, and muſt therefore be frequently renew'd by freſh Sowings.

This is a fit Seaſon for ſowing a Crop of Sorrel; and Beets ſhould be alſo ſown now for a large Crop.

The Excellence of this Root depends upon its Size, therefore let the Ground for it be very deep dug, and very well broken.

This Week is proper for the planting Rocambole, and all the Onion Kinds.

In all theſe Sowings and Plantations, the ſame Cautions are to be obſerved.

If the Froſt ſet in very ſevere juſt after the Seeds are in the Ground, the Surface muſt be lightly cover'd with Pea-ſtraw, or ſome ſuch Matter: if when they come up there ſhould be mild Weather without Rain, though this is not common at the preſent Seaſon, they muſt be carefully and gently water'd.

This ſhould be done with a Pot that has a fine Noſe; and the Water muſt be taken from a ſhallow Pond, or it muſt be ſuch as has ſtood out all Day.

The Time of watering muſt now be Morning; and the beſt of all is an Hour and half after Sun-riſe, for then the Froſt is over naturally for that Night, and the Sun will warm the Water in the Ground: whereas if it had been given at Night in the Summer Way, a Froſt coming on might have taken the more hold, and deſtroy'd the whole Crop.

After the Plants are up, they require to be kept clear from Weeds, and to have the Surface of the Earth frequently ſtir'd about them, but not too deep.

The Weeds muſt be pulled up by Hand from among thoſe which are tender, and grow cloſe; but for the larger Kinds the Hoe very well anſwers the Purpoſe.

With good Care there is no Seaſon from which Things grow ſo freely; but without this Care none is ſo dangerous.

E D E N:

A

COMPLEAT BODY of GARDENING.

* * *

NUMBER XXVI.

For the Latter End of *February* and Beginning of *March.*

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SECTION I.

FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.

Flowers and curious Plants now in their Perfection.

1. DOUBLE VIOLET.

Feb.

Plate XXVI. Fig. 1.

WE enter now upon the Flowers of Spring. The Violet is one of the firſt, and tho' a very humble Plant, one of the moſt conſiderable in the Fields: ſometime in *March* it uſually flowers in ſhelter'd Places; and has thence the Name *March Violet*; in Gardens, with good Management, we bring it ſomewhat earlier; and there are Seaſons ſo favourable, that it blows the firſt Days of that Month.

We treat of it here under that elegant Appearance it makes in the double Form: but this the Botaniſt knows makes no Diſtinction in the Species: the Seeds of the ſingle Violet will, by good Management, raiſe this double Flower; and it is therefore the ſame original Plant.

In the ſingle State the common Authors call it, *Viola martia*, *viola purpurea*, and *viola adorata.*

In this elegant Condition, when the Flower is enlarg'd, and cluſter'd with numerous Petals, they call it, *Viola duplex*, and *Viola martia multiplici flore.*

LINNÆUS conſiders this only as a Variation from Culture, and calls the Plant, *Viola acaulis foliis cordatis, ſtolonibus reptantibus*, Creeping Violet, with heart ſhap'd Leaves, and no riſing Stalks.

Feb.

The Plant is in its common State too well known for Deſcription; nor does it receive much Alteration, except in the Flower, from Culture.

The Root is fibrous, broke into many Heads, and brown.

From this riſe at the ſame Time Leaves, Flowers, and a kind of Stalks which lie upon the Ground, and take Root at their Joints; theſe are the Stolones of LINNÆUS: they are green, thick, and round; and wherever they root, there riſe alſo Leaves, and a new Plant is formed.

The Leaves ſtand in Cluſters, and they are placed ſingly on long, ſlender, and green Footſtalks. They are roundiſh, but ſomewhat Heart-ſhap'd for the Stalk; and they are bluntly nick'd along the Edges. Their Colour is a fine ſtrong green.

Among theſe riſe the Flowers, each ſupported on its ſingle Footſtalk. Theſe are ſhorter, and more ſlender than the Stalks of the Leaves, and their Colour is a paler green; they are frequently alſo ting'd at the Baſe with purple.

On the Summit of each is placed one Flower, too large and heavy for that tender Support, ſo that it always hangs drooping: in the double Condition of which we here ſpeak, it is compoſed of a Multitude of oblong, broad, and obtuſe Petals, of a very deep velvety blue, with ſome Tinge of purple; and it has a light, but very delicate Fragrance.

This is its Condition under the preſent State in Gardens; but 'tis to the Hedges he muſt go who would refreſh the Senſe with its full Perfume, or trace its Characters.

There gathering a ſingle Flower, he will find in it a great deal over-look'd by common Eyes, and worthy of his moſt ſtrict Obſervation.

The Cup is ſhort, and form'd of five Leaves, pointed at the Tops, equal in Bigneſs, but irregularly placed: two ſupport only the upper Petal of the Flower; of the others, one is placed near each of the Side Petals, and on the remaining one reſt the two lower.

The Flower we have already ſaid is form'd of five Petals: theſe are unequal in Size, and irregular in Diſpoſition; and they make in the whole a gaping Figure.

The upper Petal which ſtands ſingle is broader than the others, divided at the End, and runs out behind into a ſmall cloſe Tube, which makes its Way beyond the Leaves of the Cup: the common Name of this Part is the Spur of the Flower, but Science calls it the *Nectarium*, Seat of the Honey Juice.

The two Side Petals are ſmaller and obtuſe, and they ſtand ſtrait and even: the under Pair are larger, and turn upwards.

The Filaments are five, and they are very ſmall. Two of them are placed at the upper Petal, and run into the *Nectarium* by their united Bottoms: all have broad obtuſe Buttons, which are edged with Membranes, and naturally coaleſce together.

The Style is ſingle: it ſhews itſelf beyond the Buttons, and is terminated by a hooked Stigma.

The Seed Veſſel which follows is of an oval Form, compoſed of three Pieces, and contains numerous Seeds.

The Student will perceive that the Coaleſcence of the Buttons upon the five Filaments in this Flower, declare the Plant one of the *Syngeneſia*.

He will remember that thoſe Plants we have hitherto taught him to refer to this Claſs, were of the compoſite flower'd Kind; in which the various Impregnation from *Hermaphrodite* to *Female Floſcules*, added the Title *Polygamia*.

This Plant having nothing of that Singularity, ſtands in another Series, whoſe Title of Diſtinction is *Monogamia*.

Culture of the DOUBLE VIOLET.

The Plant being in its wild State, native of our own Country, cannot demand great Care from the Gardener in its Preſervation: but as its Situation wild is in ſhadowy Places, and under cover, this he muſt regard. Let him give a better Soil in the ſame Kind of Shelter, and he does all his Art can to aſſiſt and improve it.

It is a general and unlucky Truth, that in Gardening where little is needed, nothing is done. The very Books written with purpoſed Intention to inſtruct the Gardener, ſay nothing of the Culture of this elegant Flower. We ſhall therefore lay it before the Reader entire, as Practice, founded upon Reaſon, has ſhewn it moſt ſucceſsful.

If any have a Mind for a quick Supply, the *Double Violet* is common enough, and the parted Roots are free in growing. Theſe planted in the Shade fill our Borders: and this fills up the Meaſure of the Gardeners Knowledge. Let him who would raiſe them more ſucceſsfully, proceed thus.

In the Beginning of *October* let him dig up a Load of Earth from under the Turf, in a rich upland Paſture. Let him mix with this a third Part of a Load of rotten Earth from under an old Wood-pile; and blending theſe well, lay them up in a Heap for Winter.

In Spring let him mark where the beſt Violets flower wild under Hedges. Let him fix upon a Dozen ſtrong, and flouriſhing Plants, and take off all the Flowers but one from each. Let him leave theſe for Seed, and when it is ripe gather it with Care.

Let the ripe Seed Veſſels be laid to dry, and burſt upon a paper'd Shelf; and let the Piece of Ground be now choſen for them. Dig out the Earth, and fill up with the Compoſt; it muſt be in a Part of the Garden ſhaded, but open to the South Eaſt.

Lay the Surface level, and ſcatter on the Seeds after they have lain a Week in the Seed Veſſels, and a Week to harden out of them. Sift over them a Straws-breadth of the ſame Compoſt; and then lay upon the Bed a light Covering of Hawthorn Boughs.

Thus let the Seeds remain to take their Growth, only obſerving to keep the Ground clear of Weeds, and in very dry Seaſons to give it ſometimes a little Water.

The ſecond Year the Plants in general will flower, and there will be found among them ſingle Flowers, blue, white, and rediſh, all of the moſt perfect Fragrance; and many double, blue, and alſo white ones.

Let theſe be mark'd as they are in flower: the double blue with one Mark, the double white with another, and the ſingle ones with a third.

In the Middle of *October* following, let all the ſingle ones be taken up, and planted among Shrubs, and in Wilderneſs Quarters. Let the double white be next taken away, and planted out in ſhady Borders: and when only the perfect Kind, or double blue are left, it will be eaſy to diſpoſe them.

They muſt ſtand at a Foot Diſtance in the Bed; and as many of them as can muſt be left unremov'd, thoſe which grow near being taken up and planted at the due Diſtance. Thus will the Bed be fill'd; and the next Year the Flowers will glow with all their Luſtre. They will vaſtly exceed the common double Kind in Bigneſs and in Colour.

2. GREAT PURPLE ANEMONE.

Plate XXVI. Fig. 2. We ſhall, in ſome ſucceeding Numbers, treat largely of the Double, the Variegated, and the Proliferous Anemonies: but we mention firſt a ſpecious Kind tho' ſingle; not only as it riſes earlieſt in Seaſon, but as it is the Parent of the reſt. Moſt of the finer Kinds are rais'd from Seeds of this.

All the Botanic Writers name it. CAMERARIUS and his Followers with the ſingle Name *Anemone*. Others add *tenuifolia*, as the Diſtinction from another Kind, in which the firſt Leaves are broader. To this others add *ſimplici flore*. Fine-leav'd *Anemone* with ſingle Flowers; and juſtly give that Name with various Epithets of Diſtinction to all the *Anemonies* rais'd from this Stock.

LINNÆUS founds his Diſtinction of this Species alſo on the Leaves; but he expreſſes it in Terms more ſcientific: he calls the Plant *Anemone foliis decompoſitis ternatis: Anemone*, with the Leaves ſubdivided in the ternate Manner.

The Root is tuberous and irregular, brown on the Outſide, whitiſh within, and hung with many thick Fibres; dividing itſelf in Time into numerous Heads.

The Leaves are large and beautiful. They have long hollow'd Footſtalks, reddiſh at the Baſe, and in the upper Part green.

The Body of the Leaf is of conſiderable Extent, but it is divided into very numerous Segments, and theſe are again ſubdivided into others; the Partition being all the Way in Three's; more or leſs regularly.

The Stalk is round, tolerably upright, not very thick: purpliſh at the Baſe, and upwards green. It is not divided or branched; nor, except at one Place, has any Leaf.

At ſome Diſtance from the Top ſtands this ſingle leafy Addition, which is to be conſider'd rather as a foliaceous Involucrum for the Flower, tho' at a Diſtance from it, than as a common Leaf: but it is like the other, naturally divided into three Parts.

On the Summit of the Stalk is plac'd a ſingle Flower; this is of a very conſiderable Size and a conſpicuous Colour, a deep Violet Purple. We are accuſtom'd to the Double Anemonies, and neglect this; but it is naturally a very handſome Flower.

It riſes naked from the Summit of the Stalk, and conſiſts of an uncertain Number of Petals: when poorly nouriſh'd theſe will be only ſix, more uſually they are nine; and in the Luxuriance of Culture they become innumerable.

They are rang'd naturally in diſtinct Series, three in each; and in the Centre are plac'd numerous Filaments, crown'd with a kind of double Buttons. There riſe in the Midſt of theſe a Number of Styles, from the Rudiments of ſo many Seeds, which afterwards ſtand in a naked Head.

Our Student knows that numerous Filaments belong equally to the *icoſandrous* and *polyandrous* Claſſes; the Diſtinction being in their Inſertion.

They eſtabliſh this *icoſandrous* Claſs when they riſe from the Cup; but this Flower having no Cup they ſhew the Plant belongs to the *polyandrous* Tribe. The numerous Styles declare it alſo to be one of the *Polygynia*.

Culture of this ANEMONE.

This is not an *Anemone* to be rais'd for its own Sake, but as the Parent of the Double Kinds: 'tis under the ſucceeding Heads we ſhall deſcribe the Methods of raiſing them from its Seeds. This thrives freely in a common Border. It is a Native of the *Eaſt*, and there flouriſhes by the Sides of Woods.

3. GOLDEN NARCISSUS.

Plate XXVI. Fig. 3. This is a very elegant Plant, a Native of the *Eaſt*, and deſervedly eſteem'd throughout *Europe*. Several of leſs Beauty, which yet require as much Care, have taken its Place in Gardens, but it deſerves to be introduced in all.

Many of the Writers on Flowers have nam'd it but under various indeterminate Denominations.

Besler entitled it *Narciſſus orientalis mediocroceus major:* Great Oriental *Narciſſus*, deep yellow in the Middle.

Linnæus calls it *Narciſſus foliis enſiformibus florum nectario campanulato erecto petalis longe breviore:* Sword-leav'd *Narciſſus*, with a campanulated Nectarium much ſhorter than the Petals.

The Root is large, roundiſh, and furniſh'd from the Baſe with many thick coarſe Fibres.

The Leaves are uſually four; they are long, of a moderate Breadth, and have ſome Reſemblance of the Blade of a broad Sword.

Their Colour is a blueiſh green, and they have ſome Subſtance.

The Stalk is robuſt, round, naked, and a Foot and half high, purpliſh at the Bottom, and green toward the Top.

It has no Leaves; but at the Summit is plac'd a Scabbard, ſerving as a general Cup or Defence for many Flowers.

This burſts when they are ready to appear, and becomes yellowiſh.

The Flowers riſe together from the Head of the Stalk in the Bottom of this Scabbard, ten, twelve, or more in Number.

Together they make a large Tuft, like a Noſegay; and they are ſeparately of conſiderable Size.

Each riſes naked from the Stalk, and is compos'd of a Nectarium and ſix Petals.

The Colour is, in the whole yellow, but with a great Variation. The Petals are of a delicate pale yellow, yet with the true golden Tinge; and the Nectarium is of the deepeſt yellow that can be conceiv'd with Brightneſs.

The Nectarium, or, as the Gardeners commonly call it, the Cup, is very conſpicuous, tho' much ſhorter than the Flower. It is form'd in the Manner of a Bell, with an even Rim; and ſtands out a little from the Inſertion of the Petals. Theſe are ſix in Number, and they are inſerted at ſome Diſtance below the Edge of the Nectarium, in a regular expanded Manner.

From the lower Part riſe ſix Filaments; they are terminated by oblong Buttons; but thoſe are hid within the Tube of the Nectarium, unleſs ſought with Care.

The Style is ſingle, longer than theſe, and crown'd with a three-parted Stigma.

The Fruit is a roundiſh Seed-veſſel, form'd of three Parts, and lightly mark'd with three Ridges; and it contains many Seeds, in three Cells, with a Columnar Receptacle.

The ſix Filaments ſhew the Plant one of the *Hexandria*, Linnæus's Sixth Claſs; and its ſingle Style places it among the *Monogynia*, the firſt Sub-diſtinction under that general Head.

Culture of this Narcissus.

It is a Native of the *Eaſt*, but it is not confin'd to that Quarter of the World; ſome of the warmer Parts of *Europe* have it, tho' in leſs Perfection.

In *Turkey* it exceeds wild the beſt Appearance we can bring it to make in our Gardens: 'tis from thence we ſhould import Roots for a quick Stock; and Seeds for raiſing it to Perfection, and with Variety.

The Reaſon that we ſee the Plant ſo much below its proper Standard here, is, that thoſe who ſell the Roots, inſtead of obtaining them from Countries where they are native, import them from *Holland*; where, tho' many very fine ones are rais'd, the beſt are kept, and our People are ſupply'd only with an inferior Kind.

Thoſe who chuſe to raiſe them from Off-ſets, ſhould take ſuch as have been with the Parent Root three Years in the Ground. Theſe ſhould be taken off in *Auguſt*, and planted at ten Inches Diſtance. They will thus riſe to a very good Condition.

The Method by Seeds is in all Reſpects preferable: it is, in general, the ſame that muſt be us'd for all the *Narciſſus* Kinds: but as there are ſome Particularities in the raiſing this Species, we ſhall enumerate them.

Seeds ſhould by all Means be obtain'd from the warmer Countries; and carefully collected from a good Flower. They muſt be ſown the firſt Week in *September*, in Boxes of ſome one of the light rich Compoſts, and ſet where they can have free Air, and the Morning Sun.

In Winter the Boxes muſt be remov'd into a ſouthern Aſpect; and toward *April* be taken back into their firſt Place again.

In Spring the Leaves will appear; and they muſt be kept clear of Weeds, and ſometimes gently water'd.

Early toward Autumn they will fade; and a Quarter of an Inch of the ſame Compoſt muſt be then ſifted over them.

They muſt throughout the Year be kept with the Mould neither wet, nor crumbly thro' over Dryneſs; and the third Year they ſhould be ſeparated from the Earth, by ſifting; and planted out in a Place ſhelter'd from Winds, and not open to the full Sun.

The firſt Week in *Auguſt* is the beſt Time for planting them. The Bed muſt after this be kept clear from Weeds; and five Weeks after they muſt have a freſh Covering of an Inch of the ſame Compoſt.

1 Double Violet

2 Great Purple Anemone

3 Golden Narcissus

4 ady's Slipper

5 Purple Edg'd Tulip

6 Psidium

J. Hill delin. et sculp.

Feb.

In this Bed they will flower; and there will be a Mixture of better and more common, but very few bad ones.

They ſhould be mark'd when in Bloom; and the ſucceeding *Auguſt* the Roots of an inferior Kind ſhould be taken up, and planted in other Parts of the Garden: only the fine ones left. Theſe ſhou'd ſtand at a Foot Diſtance, and not be taken up till the fourth Year.

They will thus blow fairer every Seaſon than the laſt; and once in three Years afterwards will yield many Off-ſets. Theſe muſt be taken off with Care, and we have ſaid how they are to be manag'd.

4. LADIES SLIPPER.

Plate XXVI. Fig. 4.

The whole Earth does not afford a Plant exceeding this in Singularity; and 'tis ſtrange we do not ſee it oftener in Gardens. The Trouble of raiſing it is little, and the Difficulty leſs; for it is a Native of our own Country.

It ſurprizes the Peaſant in the *Yorkſhire* Woods; and is not uncommon in *Lancaſhire*, *Cheſhire*, and the adjacent Counties; but of thoſe who have been taught to admire it there, few have thought of enriching their Gardens with its Roots.

Moſt of the old Writers have mention'd the Plant: and almoſt univerſally under the Name *Helleborine*; the Leaves reſembling the Baſtard *White Hellebores*, commonly call'd by that Name.

C. BAUHINE adds to that Title the peculiar Character of the Flower, and the Name thence derived: he calls it *Helleborine flore rotundo ſive calceolus*. Others, *Calceolus Mariæ*.

LINNÆUS agrees with thoſe who ſeparate it by a peculiar Name from the other Genera, and calls it *Cypripedium*; adding, as the Diſtinction of the Species, *radicibus fibroſis foliis ovato lanceolatis caulinis:* Fibrous-rooted *Cypripedium*, with oval and ſpear-pointed Leaves growing on the Stalk.

This ſerves very happily to diſtinguiſh it from the bulbous *Cypripedium*, by ſome ſuppos'd an *Orchis*, which has no Leaf on the Stalk, and differs greatly in Aſpect.

There needs no Character of Diſtinction between this and the *Siberian* or *North American* Kind; for theſe tho' deſcrib'd by too many as diſtinct Species, are, in Reality, no more than Varieties from Accident of Growth.

In the Woods of *Yorkſhire* the Flower is ſmaller than in *Lancaſhire:* in Gardens it exceeds in Bigneſs and Luſtre that of *Lancaſhire*. We have repreſented in this favour'd and moſt perfect State in our Twenty-ſixth Plate.

The Root is irregular, oblong, and creeps beneath the Surface: it is of a blackiſh Colour, and hung with innumerable Fibres; mark'd on the Surface with the Impreſſions of decay'd Stalks, and ſwoln at the Extremities with Buds of new ones. The Taſte is auſtere, acrid, and bitter.

The Leaves are oblong, broad, and firm. Their Colour is an elegant green, and they have high Ribs running lengthway.

The Stalk is ten Inches high, round, upright, and of a pale green, often ſtain'd with red at the Baſe. The Leaves on this are like thoſe from the Root, nervous, and a little hairy, as is alſo the Stalk.

In the wild State the Plant uſually produces only a ſingle Flower, which terminates the Stalk: but in Gardens, and where Nature greatly favours it elſewhere, there will be two. One always terminating the Stalk; the other riſing from the Boſom of the Leaf next under it, on a long tender Footſtalk.

Theſe are large, and in Colour partly yellow and partly purpliſh: the Slipper, as it is call'd, being yellow, the reſt ting'd with Crimſon: but theſe Colours are not certain, white often getting in among them, and ſometimes the Purple or Crimſon becoming univerſal. What we have firſt deſcrib'd, as it is the moſt natural, is alſo the moſt elegant State of the Plant.

The Situation and Colouring of the Flower being known, the Student will be earneſt to underſtand ſo ſingular a Form. This would be altogether inexplicable, according to the earlier Syſtems of Botany; but what we know of the Courſe of Nature now renders it ſufficiently familiar.

In the Place of a Cup, it has that kind of Defence call'd the Spatha, or Scabbard; form'd of ſome light ſcatter'd Pieces of a membranous Subſtance, defending a ſingle Receptacle for the ſucceeding Parts of Fructification.

There is, beſide this, no other Cup: the Flower ſtands naked upon the Rudiment of the ſucceeding Fruit; and it conſiſts of four Petals and its ſingular Nectarium: this is the Piece call'd the Slipper; and as it is the moſt peculiar, is alſo the largeſt Part of the Flower.

The Petals are long, narrow, and plac'd in Form of a Croſs: the upper and under ones are longer than thoſe plac'd ſideways: they are all of a deep but elegant purple, and the two Side Petals are hairy on the Inſide. This gives it a velvety Hue, and adds greatly to the Beauty of the Flower.

From the Baſe of the loweſt Petal riſes the

Nectarium, or Slipper; this is of the Shape and Bigneſs of a Pigeon's Egg; tender, membranaceous, and hollow.

The Colour is naturally a pale yellow: with good Culture it will glow perfect gold; and on the under Side it is mark'd with a few long Veins of a purple, like that of the Petals, but tinctur'd a little with Crimſon.

This is all the Red natural to the Slipper Part; but ſometimes from the Luxuriance of Nature, or of ill directed Culture, it ſpreads over the Whole.

The Slipper is rounded and obtuſe at the End; and toward the Baſe it has an Opening, which ſhews it ſomewhat hairy within. This gives it the Air of a coarſe Slipper, or rather of a Wooden Shoe: a Part of Dreſs with which we hope the *Engliſh* Reader will be long unacquainted.

The Opening is defended by a kind of Lip, doubled, and very ſingular. The upper Part is white, ſprinkled with purple Spots: the under thicker, greeniſh, and ſpotted at the Sides with black.

The Eye, ſatisfy'd with tracing the Wonders in the Body of this Flower, muſt examine its Fructification, to know to which of the LINNÆAN Claſſes it belongs.

The Filaments are only two, and they are very minute; but they are ſufficiently conſpicuous from their upright Buttons. Theſe are defended by the upper Lip of the Nectarium or Slipper; but, that rais'd a little, they become very obvious.

The young Botaniſt muſt not be raſh in adjudging this Plant, from its two Filaments, to the *Diandria:* let him trace their ſhort Courſe to the Origin, and he will find them fix'd upon the Piſtil. This ſhews the Claſs; the Twentieth in the LINNÆAN Syſtem, the *Gynandria.*

LINNÆUS, under this Term, comprehends thoſe Plants, whoſe male Parts for Fructification grow up on the female.

The two Filaments ſerve as the Mark of a Sub-diſtinction; they place the *Cypripedium* among the *Gynandria Diandria*: this is the firſt Section of that Claſs; for there is no known Plant which has a ſingle Filament growing upon the Piſtill.

The Rudiment of the Fruit is long and twiſted, and its Style very ſhort, and fix'd to the upper Lip of the Nectarium, terminated by a faint Stigma. Thus the farther we trace Nature in the Flower of this ſtrange Plant, the more we ſhall find for Wonder.

With Reſpect to the Nectarium, 'tis a Part but lately underſtood in Flowers; and is not only conſpicuous but ſingular in very many of them. There is no Article in which Nature ſo much wantons; nor any in regard of which her Purpoſe has been ſo much miſunderſtood.

The Nectarium univerſally contains a Honey-juice: this the too-wiſe PONTEDERA declar'd to be analagous to the Liquid in the *Amnion* of Females; and that it had great and neceſſary Uſe in giving Perfection to the Seeds.

This, farther Obſervation ſhews erroneous; for the male Flowers have their Nectarium and its Juice; where no Seeds are to ripen. The Willow is an obvious Inſtance of this; and it is found alſo in the male Flower of the common Nettle.

In ſome Plants the female Flowers indeed have it alone, as in the *Phyllanthus* and *black Briony:* in others 'tis found in both Kinds, as in the Butchers Broom of our Heaths and Commons.

In the *Columbines* and in the *Nigella's*, the Nectaria are ſo conſpicuous Parts, that VAILLANT, tho' not accuſtom'd to Error, ſuppos'd them the Body of the Flower, and call'd the Petals Leaves of a Cup. The *Columbine* is a great Inſtance that the Nectarium is a diſtinct Part from the Body of the Flower; and that Truth is read as obviouſly in many others.

With regard to Form, there is no Part ſo inconſtant: in the *Pinguicula*, and many more, it is a Spur; in the *Narciſſus*, a Cup; and here, a kind of Bladder: nor is its Situation more certain; it is bury'd in the Crow-foot, and it crowns the Paſſion-Flower.

To thoſe Kinds we refer, having deſcrib'd them in preceding Numbers: from whence, and from the Structure of this of the *Cypripedium*, the Student will know a great deal of its Form.

The Seed-veſſel that follows the Flower is of an oval Shape, mark'd with three Ridges form'd of three Parts; and contains in three diſtinct Cells numerous very minute Seeds.

Culture of the LADY'S SLIPPER.

Not *England* alone, but all the Northern *Europe* has this Plant wild in Woods: yet there are only few Spots where it thrives. In theſe the Aſpect is South or South-Weſt, but the Place perfectly ſhaded.

The Soil I have obſerv'd uniformly of one Kind, wherever I have ſeen the Plant; light, mellow, and a little Damp.

The Covering of fallen Leaves, and their finer Parts waſh'd into a naturally looſe and loamy Soil, as Manure, ſerve the great Purpoſe of raiſing this Plant perfectly: and this Soil thus underſtood, it muſt be our firſt Care to imitate.

Mix equal Parts of Earth from a rich upland Paſture, River-Mud, and the mellow Soil from under an old Wood-Pile: to a Load of this add a Buſhel of moderate Sand; and dig in a good Quantity of fallen Beech-Leaves, the Sweepings of a Garden.

Throw up this into a Heap, and let it lie all Winter and a great Part of the ſucceeding Summer; turning it often, and frequently ſprinkling the Heap with Water. Thus all will rot, mellow, and mix perfectly together; and thus will be form'd a proper Soil. This has never been done yet in any Garden, and for that Reaſon the Plant has never throve perfectly in any.

This Compoſt will ſerve extremely well for ſeveral other Wood Plants.

In *April* and *May* the wild Plants flower: they are earlier in Gardens where they have good Management: at that Period let a careful Perſon be employ'd to ſelect the ſtrongeſt that are in Flower; and the beſt of thoſe which having riſen from the laſt Year's Seeds, ſhew only Leaves. Let half a Dozen of thoſe in Stalk be mark'd with Sticks, and twenty or more of the others.

When there are two Flowers on a Plant which is mark'd, let one of them be taken off. Theſe are for Seed, and it will ripen beſt in that Manner.

At the latter End of *July* let the Seed Veſſels of all theſe be carefully taken off, and wrap'd in Paper. Let them be laid on a Shelf in an airy Room, and take their Time to dry.

In the Beginning of *September* let the Roots which were mark'd for Strength, and have yet bore no Stalks, be taken up: in this will be required great Care. Let the Perſon take out with him a Baſket, and ſome Pieces of thin Linnen Cloth.

Let him cover the Bottom of the Baſket with Moſs, freſh gather'd, and wet with Dew. Then taking up one of the Roots with a Ball of Earth about it, let him wrap it up in one of the Pieces of Cloth, and tie it looſely at the End, leaving the Bud out.

Let him lay this in the Baſket upon the Moſs, and thus proceed with all the others, packing them cloſe, with ſome Moſs, as occaſion may require, between them.

Let the whole be cover'd with Moſs, and the Lid ty'd cloſe down, and let them be immediately deliver'd to the Carrier, if for a diſtant Place: they will thus preſerve the natural Earth about them through a long Journey, and come to hand without Damage. At the ſame Time let the Seeds be ſent in the Papers: for they are too ſmall to remove.

Let the Compoſt be now brought to its Place, this muſt be to the South Weſt, well ſhaded, and among Trees.

Let a Border be dug up, and the Mould taken out; and let the Compoſt be laid in its Place. Draw Lines lengthway and acroſs at a Foot Diſtance; and in the Centre of each Square open a Hole, and plant one Root with its Ball of Earth.

When theſe are in, ſcatter the Seeds upon the Surface; and cover all one Inch deep with fallen Beech Leaves; thus leave the whole to Nature.

The Roots in general will live, and a good Part of them will flower; but theſe will by Degrees grow weaker, and decay.

The great Quantity of Seeds will produce but a few Plants, but theſe will be laſting; they muſt be left ſtanding where they riſe be it ever ſo irregularly.

The whole Care of the Plants is this. All Spring they muſt be kept clear from Weeds, but the Ground between them muſt be cover'd with Beech Leaves. As they ſhoot Leaves or Stalks, they muſt be frequently water'd; and at the Approach of Winter the whole Bed muſt be cover'd with Leaves again.

In this Manner, tho' the tranſplanted Roots by degrees decay, the Seedlings will flouriſh laſtingly.

If the Seeds do not ſhoot, as in ſome Places, tho' apparently well choſen, they never will, there muſt be a new Set of Roots brought in once a Year; and there is a Chance that Seeds ripen'd from the Plants which flower there, and falling ſpontaneouſly, may produce new Plants, tho' ſuch as were brought from elſewhere and ſown by hand would not.

This is of great Importance, becauſe no Plant of the *Cypripedium* will retain its full Perfection Year after Year, but one that has ſtood without Removal where the Seed fell.

There is ſomething extreamly ſingular in the Shooting of the Seeds of this Plant, the *Orchis*'s and *Helleborines*: no Art can ſecure it, nor Obſervation diſcover the Chances on which it depends; but all that can be done for it is what we have here directed.

Such a Border as this ſhould be kept in every curious Garden: it will ſerve for all the ſcarce Wood Plants.

The *Fly Orchis*, the *Clandeſtina*, *Broom-rape*, and *Coral Toothwort*, will all thrive in it; and theſe are Plants, which, beſide their Beauty, have the full Merit of Singularity; and will be the more valued in a Garden becauſe few have raiſed them.

They may be brought to live by taking up the young Roots with large Balls of Earth; and ſuch as ſow themſelves ſucceſsfully, can never be rooted out of the Ground afterwards.

We are not to deſpair of this Succeſs if no ſeedling Plants appear the firſt Seaſon or two; for theſe ſmall Seeds often lie two, three, or four Years quiet, and ſhoot afterwards.

5. WHITE PURPLE EDGED TULIP.

Plate XXVI. Fig. 5.

The Tulips will in a little while burſt upon us with a vaſt Glow of Beauty and Variety.

This is an early one, and claims from that Article a great deal of Merit: nor is it without much Elegance in its Simplicity: the Colours are no more than two, purple and white, but they are diſpos'd happily.

The Student is to underſtand that the genuine, diſtinct, and real Species of Tulips are very few: Art has vary'd and multiply'd the Colouring of the Flower almoſt beyond Conception; but it is eaſy to trace all theſe Varieties down to one of the two or three original Kinds. This is one of thoſe which Culture has leaſt alter'd.

The Generality of Authors have named it among others, calling it *Tulipa*, and *Tulipa turcarum.*

Linnæus, *Tulipa flore erecto foliis ovato lanceolatis*; upright flower'd Tulip, with oval and lanceolated Leaves.

The Gardeners Names for Flowers are not only beneath the Notice of the Student, too low, too mean and vulgar, but they are too uncertain for any real Uſe. That which is given by one of theſe Perſons, at one Time to a Flower, being given at another to one altogether different.

This Tulip is a Proof it was early called in *England* the *Pretty Betty*; and with ſome ſtill retains that Title; but others having received Roots of other Kinds, under the ſame Name, apply it to them.

Thus nothing is certain about ſuch Denominations: they convey no Idea of the Flower to which they are apply'd, and therefore may as well be given to one as to another.

It was to baniſh ſuch vague Terms Linnæus conſtructed his truly diſtinctive ſpecifick Names of Plants; and gave the World at once the Rule and the Example.

Something like this may be eſtabliſh'd even with reſpect to Flowers; tho', as Varieties, they are not ſo diſtinct as Species, nor can be ſo well diſtinguiſh'd.

A Name that conveys ſome Idea ſhould be apply'd to each: this we ſhall attempt, and this will at leaſt in a limited degree be uſeful.

Thus the Name white, purple, edg'd Tulip, though it does not diſtinguiſh this Flower from every other Kind; nor could, unleſs lengthen'd beyond Breadth or Meaſure, yet gives a general Notion of its Colours, and their Diſpoſition; and ſeparates it from many.

The Root is a Bulb of a roundiſh oval Figure, cover'd with a pale Rind.

The Leaves are large, and of a greyiſh green. They are broad, hollow, and pointed.

The Stalk is ten Inches in Height, ſlender, round, and not very robuſt; but it ſupports the Flower erect from the Bud, not drooping as the little yellow Tulip, which is a Species utterly diſtinct; and is like this, the Source of innumerable Varieties.

On the Summit of the Stalk ſtands the Flower, as in the other Tulips, naked, or without a Cup. It is but of the middling Size among theſe Flowers; and the Petals are pointed.

The Ground Colour is a pearly white, but round the Edge of each Petal is continued a broad Liſt of elegant purple.

The Rib in the Midſt of each Petal, has toward its Baſe alſo a light Tinge of purple, but this dies away as it advances upward.

This is the natural Colouring of the Flower; but the Gardeners Art enlarges its whole Form, diverſifies the white with more Streaks of purple Rounds off the Petals; and introduces other Colours.

What we have deſcribed is its true native Colouring. It ſo glows in the Fields and Thickets of the Eaſt.

No Flower is fitter for the young Student's Examination. Nature does not afford any in which the Filaments, their Buttons, and the Rudiment, and Stigma are more diſtinct than in the Tulip.

All ſyſtematic Botany at preſent depends on theſe Parts, and it will be very proper for the abſolute Beginner to take his firſt Leſſon of them here.

We have obſerv'd there is no Cup. The Flower will give him a juſt Notion of what is called campanulated, Bell-ſhap'd. It is compoſed of ſix Petals ſo arrang'd, that they form a hollow Body, ſomewhat widening at the Mouth.

The Filaments are ſix, and they have large, oblong, upright, ſquared Buttons, placed free, and diſtant.

The middle Part is occupy'd by the Female Organs; and in theſe the Stigma is very conſpicuous, altho' the Style is wanting. That Part uſually riſes from the Rudiment of the Seed Veſſel, and ſupports the Stigma, but here that eſſential Organ reſts on the Summit of the Rudiment itſelf.

This is very large, oblong, rounded, but mark'd with three high Ridges; and the Stigma which crowns its Top is of a triangular Form, and compos'd of three united Parts.

The Angles are furrow'd and ſplit, and the whole remains, crowning the Seed Veſſel to Maturity; when it is divided into three Cells within; and contains in each a great Number of Seeds, ſemicircular, plain, and placed in double Series, ſeparated by chaffy Subſtances, reſembling them in Form.

The Number of Filaments, ſix, ſhew that the Tulip is of the ſixth Claſs in the Linnæan Syſtem, the *Hexandria*; and the ſingle Stigma, for that is to be counted where there is no

Style, ſhews it one of the *Monogynia*, the firſt Section of that Claſs.

The Culture of the Tulip we ſhall lay down at large, treating of the finer Kinds in a ſucceeding Number.

6. PSIDIUM.

Plate XXVI. Fig. 6.

A very elegant Tree, conſpicuous for its Leaves, Flowers, and Fruit; and for its regular Growth worthy a Place wherever Exoticks are preſerved.

Moſt who have of late written on Plants, have deſcrib'd it, tho' not under this Title. Its Name in them is *Guajava*.

Plukenet has called it, *Guajava alba acida*; and Commeline has well deſcribed and figured it; tho' in the Place of the Term *acida* he places *dulcis*.

This Author names alſo the Acid Kind as a diſtinct Species: but Linnæus with good Reaſon joins them, allowing this ſweet *Guajava* only the Diſtinction of a Variety.

This Author calls the Genus *Pſidium*; and as there is no other known Species, he adds no Epithet for Diſtinction: in his lateſt Work the Species *Plantarum*; tho' in the earlier he added, *ramis tetragonis*, and *caule quadrangulo*, the Squareneſs of the Shoots affording that Character.

In its native Climate it is a Tree of moderate Growth, five and twenty Foot in Height, and of conſiderable Thickneſs in the Stem. With us it requires the Heat of a Stove; and want of Air checks its Growth; but we have it from ſix to eight, or nine Foot in Height.

The Stem is firm and ſolid, and the Bark is brown. The young Shoots are green, ting'd ſometimes a little with brown; and they firſt riſe with four Ridges, giving them a ſquare Appearance.

The Leaves are numerous and very beautiful; they are long, and they ſtand as it were croſswiſe upon the Branches: this gives at once an Air of Singularity and Fullneſs.

They have ſhort Footſtalks, and they are moderately broad, obtuſely pointed, and ſomewhat undulated at the Edges.

Their Colour on the upper Side is a deep and ſtrong green: on the under Part they are paler.

The Flowers are numerous, large, and white; they riſe on ſhort Footſtalks from the Boſoms of the Leaves, and have numerous Threads in the Centre.

The Fruit is large, oblong, and umbilicated, and is not unpleaſant to the Taſte.

The Cup of the Flower is of a companulated Form, made of a ſingle Piece, and divided lightly at the Edge into five oval Segments.

The Body of the Flower is compoſed of five Petals; they are of an oval Form, and inſerted into the Cup.

The numerous Filaments are inſerted alſo into the Cup. This places the Tree among the *Icoſandria*. Amidſt them riſes an extreamly long Style; this is ſingle, and the Tree is therefore one of the *Monogynia*.

Culture of the Psidium.

The Seeds of the Fruit raiſe this Tree freely, and they are eaſily obtain'd from the *Weſt Indies*, where it is very common: they muſt be raiſed in a Pot of rich Earth, ſet up to the Rim in a Bark-Bed.

When the Plants appear, each is to be ſet in a ſeparate Pot, and this put into the Hot-Bed again.

When they are grown to ſome Size, they muſt be removed with their Ball of Earth into larger Pots, and they muſt be water'd occaſionally; and Air muſt be admitted freely in the Middle of the Day.

Toward Autumn they muſt be removed into the Stove, and there ſet in a moderate Part: they will only require after this to be kept clean, and moderately water'd.

CHAP. II.

The Management of the Garden for this Week.

Weeds will now begin to appear thick upon the Borders; and they will, unleſs removed quickly, diſgrace the Gardener, and hurt the Roots of flowering Plants. The Intent is, that all the Nouriſhment the Border can afford ſhall be abſorb'd by them; but theſe will have the greateſt Share unleſs deſtroy'd. This neceſſary Buſineſs muſt be done with great Care.

The Buds from many of the Roots appear among the Weeds; and thoſe of moſt others are form'd, and have made ſome Shoot, though they have not pierced the Surface.

On the Preſervation of theſe depends the early Shew, and regular Growth of the Plants. Therefore let all Care be taken not to injure any of them. No Perſon is fit to be intruſted with this Work but he who planted the Roots. No Hoe, or other large Inſtrument muſt be uſed.

The largeſt of the Weeds muſt be firſt pulled up by Hand; and when they are taken off the Surface muſt be broke, and the ſmall ones deſtroy'd with a Trowel.

After this let the Border be laid ſmooth with the ſame Care, and then let a Quarter of an Inch of fine freſh Mould be ſifted over it.

This done, once in three Days, if the Seaſon be dry, give a gentle Watering.

This muſt be done in a Morning, two Hours after Sunriſe, it will waſh in the fineſt Part of the new Mould, and ſet the Plants to growing.

It will be eaſy in this Work to ſee what Roots are not in a good Condition, and they ſhould now be removed and replaced by others.

Perennial Sunflowers and *Aſters* will ſucceed very well, planted now; and *Pinks*, *Roſe Campions*, and *Bellflowers*.

We have given the Gardener many Inſtructions for keeping up a Succeſſion of Flowers in the Garden, as of uſeful Herbage in the Kitchen Ground.

The *Romans*, whoſe Taſte was at leaſt as delicate and juſt as ours, valued the late Productions of the Garden equally with the early ones; nor does the *Engliſh* Poet expreſs with more Regard

“ There the firſt Roſes of the Year ſhall blow.”

Than the *Roman*,

Roſa quo locorum
Sera moretur.

We have given Inſtructions for the early covering of the Ground with the *Ranunculus* and *Anemone* Kinds, and ſhall this Week direct the Gardener to prepare for late ones.

Let him dig up a Piece of rich Ground, and work in with it ſome freſh Paſture Earth. In this let him plant ſome Roots of large *Double Anemonies*, and in ſuch another Piece ſome *Ranunculus's*. Long after the Beauties of the Spring, in this Kind are gone; theſe will come into flower, and give a very pleaſing Variety among the firſt Bloom of Summer.

We do not adviſe the planting elegant Kinds at this Seaſon, for it is not ſo favourable as an earlier Period; but there are many gaudy ones of leſs Value.

SECTION II.

The Buſineſs of the SEMINARY for this Week.

THE *Cedar of Lebanon*, a Tree much eſteem'd, may be propagated with great Eaſe in *England*; and as this is the Seaſon for ſowing the Seeds, we ſhall give here the general Directions.

Let the Gardener chuſe an open Spot in the Seminary, where the Soil is dry. Let him ſcatter an Inch Thickneſs of the coarſeſt Sand over the Surface, and dig it in a full Spade Depth; mixing the Sand well with every Part of the Mould; and laying all fine.

Get two or three freſh Cones of Cedar from the Eaſt. There is no Difficulty in this; for the Tree is common, and they are yearly brought into *England*. Fix the Point of an Iron Spike in the Centre of the Cone, and ſtrike the Head of it upon a Stone; thus ſhattering the Cone, and ſpliting it as the Point goes in.

Pick out the Seeds, and ſow them regularly at four Inches Diſtance, rejecting ſuch as appear bad. Cover them a Quarter of an Inch with the ſame Mould; and then ſet ſome Traps baited for Vermin, about the Ground; and ſtrew ſome Pieces of Furz-Buſh over the whole Spot.

They will riſe without any farther Care; and when they have got a little Strength, the Furzes muſt be removed, the Ground weeded, and ſome Mould carefully drawn up about the Stems of all the Plants.

One Piece of Furze-Buſh ſhould then be ſtuck up near each, and thus they are to be left through Winter.

When they have ſtood one Year, let them be removed into another Bed, and ſet at greater Diſtances; leaving in the Seed-Bed as many as can ſtand free enough; and let the ſtouteſt Plants be left.

The others muſt be taken up with a good Ball of Earth, and immediately planted in a ſomewhat richer Piece of Ground; they muſt be ty'd up to Stakes, otherwiſe they will not grow ſtrait. They will after this require only the common Care for bringing them to Perfection.

SECT. III.

POMONA, or the FRUIT-GARDEN.

IN very forward Seaſons this Week is the Time to finiſh all Pruning that may be yet requir'd for the Peach and Nectarine Kinds; and when this is done, and they are carefully nail'd to the Wall, they muſt be left to make their Shoots, aſſiſting them by digging the Earth in the Borders; and, where the Trees are old, at greater Diſtances.

In Seaſons leſs mild the Work may better be defer'd a Week or Fortnight longer. The Rule is this; do the Work when the Froſts have no great Power, and before the Buds are too much ſwell'd. If theſe tender Trees be prun'd in froſty Weather, the Wounds, where any thing large, do not well heal; and if it be defer'd till the Buds are grown too full, the Buſineſs cannot be done without deſtroying many of them.

This is a very proper Time for pruning the new-planted Trees in particular, becauſe what Parts are dead will now be ſeen diſtinctly, and muſt be cut out.

The Nailing muſt be done with great Care. The placing the Branches horizontally is the principal Article for their bearing, but it ſtops their Growth in Length; for in Nature their Poſition is upright; and when thus laid flat, tho' they continue lively, they grow little at the End: Nature purſuing her own Courſe in ſending upright new Shoots from the Sides.

The Uſe of the Training with a double Stem is here very evident. If the Trees have been planted at a proper Diſtance, the Shoots, from a ſingle Stem, will reach either way far ſhort of one another at the Time of Nailing; and as they grow little in Length afterwards, a great Part of good Wall wou'd be left uncovered; but when they are rais'd with a double Stem, ſhort Branches ſerve the Purpoſe, and the Wall is ſoon covered with bearing Wood.

This muſt be the Practice in common Caſes, but no general Rule ſuits all; and he is the beſt Gardener who knows how to make the moſt of the Place in the Condition wherein he finds it, in Things unalterable.

If the Walls be very high, juſt the contrary of this is to be practis'd. The Trees ſhould be planted nearer one another, and rais'd with a ſingle Stem.

There is one great Error in thoſe who are ſuppos'd the beſt Gardeners, relating to this Pruning. When a Tree is very vigorous and ſtrong they defer it till *April*; and by this late Cutting damp the Force of the Growth. It does indeed anſwer the Purpoſe, but 'tis in a clumſy Manner, and with great Diſadvantage: the Bloſſom-Buds are by that Time preparing to open, and many of them are deſtroy'd, which the Operator had no Deſign to hurt.

There is no Occaſion for ſuch Practices: there cannot be too many Buds upon a ſtrong and healthy Tree; and the true Way to abate its over Vigour, is to let theſe blow and bear. This will lower the Spirit of the Growth much better, and much more ſafely than cutting out and ſhortening ſtrong Branches at ſuch a Time.

When the Trees are young, and the Walls are not well covered, this Practice is worſt of all. Theſe Trees, in ſuch Circumſtances, cannot be too ſtrong: the diſbudding them with Judgment in Spring, and diſplaying their Branches at all the Times of Nailing, anſwers the Purpoſe every way much better.

The Strawberry-Beds ſhould this Week have a careful and thorough Dreſſing. The Strings muſt be taken off, the Weeds pull'd out by Hand, and the Earth ſtir'd and broke lightly and carefully, with a Trowel, among the Plants: after this, let a little freſh Mould, from a rich Paſture, be ſprinkled in between the Plants, and gather'd about their Heads: they will ſhoot with great Vigour, and every Bloſſom be ſucceeded by its Fruit.

Let the Gooſeberry and Currant Buſhes have their laſt Dreſſing this Week; if any Branch have been left in, that had better have been remov'd; or any thing left at the Pruning, that now appears improper, let it be taken out.

Let the Earth be dug between and round about them; and if the Weather be dry, give them, at three Days Diſtance after this, a Couple of moderate Waterings. Theſe Shrubs are in general too much neglected: they will thus flower earlier, and the Fruit will be better.

SECT. IV.

CHLORIS, or the KITCHEN-GARDEN.

THIS Week let a Bed be dug up for a ſecond Sowing of Celeri. A Piece of light Ground, open to the Sun, is the proper Situation and Soil for the Seed at this Time. We ſhall direct a third Sowing a few Weeks hence; and for that a different Mould and Situation will be needful: Moiſture will be eſſential to the Succeſs of that Crop, as Heat is to this.

Let the Seeds be covered a Quarter of an Inch, or thereabout; and to forward their ſhooting, if the Weather be dry, let them, after they have been a Fortnight in the Ground, have once in two Days ſome Water. This will bring them up a Week ſooner than in the common Way, and that is an eſſential Point in the preſent Sowing.

At their firſt Appearance they muſt be clear'd from Weeds; and about two Months from the ſowing of the Seed, the Plants will be fit for removing. Their farther Management we ſhall give at the due Time.

This Week let another Sowing of Lettuces be carefully manag'd, and let them be of the beſt Kinds.

Chuſe for this Purpoſe a Piece of Ground open to the South, and ſhelter'd from cold Winds; and in preparing it for Sowing, dig in ſome well rotted Dung from an old Melon-Bed: then ſcatter the Seeds carefully in a ſtill calm Evening, and throw a few Buſhes over the Ground.

Let a Piece of light and mellow Ground be prepar'd for the *Dutch* Parſley, which is cultivated for its large Root. Let this be dug a full Spade deep, and perfectly well broken. Sow the Seeds carefully by Hand, not too thick, and rake them in.

The common Method is to ſow this in Drills, but it is very injudicious: no Plant ſhould ever be ſown thus whoſe Root is the uſeful Part.

When theſe Plants appear they muſt be clear'd from Weeds, and thin'd to ſeven Inches Diſtance every way. The Weeding muſt be continu'd at Times; and afterwards it will be uſeful to hoe them up, cutting in as deep as may be with a ſtrong Hoe. The Roots will thus grow larger in leſs Time, and be more tender and well flavour'd.

Look to the Beds of early ſown *Spinach:* it will require careful Weeding; for otherwiſe the Cold, and the being rob'd of Nouriſhment by this wild Growth, will check it too much.

Some ſow this in Rills; and in that Caſe the Earth muſt be very well broke between them: but the beſt Method is free Sowing; and the Plants will now be fit for thining: they may be left at four Inches Diſtance, taking up the weakeſt; and thoſe which remain being thus clear'd, and the Earth broke about them, will grow faſter than can be well imagin'd.

We have endeavoured, on many Occaſions, to recommend to the Kitchen-Gardener this Practice of frequent and careful breaking of the Earth about the Roots of Plants; and would have it underſtood in its full Force univerſally.

In the Field its Effect is prodigious: it exceeds all poſſible Belief without the Atteſtation of the Senſes: and the ingenious Inventor of that excellent Method by Horſe-hoeing, by which alone the Plants have the full Nouriſhment from this Source, while he extols that Method, acknowledges that it is inferior to the Spade.

What he has found univerſally is this; that one Plant thus kept clear, and aſſiſted by breaking the Earth while it is growing, will equal in Bigneſs two, three, or four, of the ſame Kind planted in the common Way, and at the ſame Time exceed them in its Qualities.

The ſame will univerſally hold good in the Kitchen-Ground; and quick Growth is of manifold Advantage there; it brings Crops early, which is a great Advantage; it preſerves them from Vermin: for they feed on ſickly not on vigorous Plants; and it always renders them more tender and better flavour'd.

Let us bring this into Practice in the *Spinach* we have now mentioned: the Plants are at four Inches Diſtance at preſent, and the Ground being clear'd they will grow quick. The Gardener may, if he pleaſes, wait their Maturity: they will ſucceed very well; but he can in this Way do little to aſſiſt them afterwards: they will bear Hoeing, but that penetrates only a little Way into the Ground. We therefore adviſe that he give a Part of this Crop the Advantage of better Diging.

When the Plants are grown a little larger, let him take up the greater Part of them. Let him leave only a ſmall Number, at ſuch a Diſtance that he can dig between them with a Spade.

Thoſe he takes up will be valuable for their Earlineſs; and let him once in ten Days dig up the Ground thoroughly between the others: he will have twice as much *Spinach*, and better, from theſe few Plants than from the Whole.

EDEN:

A
COMPLEAT BODY of GARDENING.

NUMBER XXVII.
For the ſecond Week in *MARCH.*

SECTION I.
FLORA, or *the* PLEASURE-GARDEN.

CHAP. I.
Flowers and curious Plants now in their Perfection.

1. BROAD-LEAV'D PENDULOUS-FLOWER'D CYTISUS.

March.
Pl. 27.
Fig. 1.

THE Gardener knows this Shrub under the Name *Laburnum*; and moſt Authors have treated of it under that Title: but 'tis with Reaſon LINNÆUS has refer'd it to the *Cytiſus*: it has all the Characters of that elegant Genus; and no others. To call it by a diſtinct Generical Name would therefore be againſt Rule; and would introduce Confuſion into the Science.

While we deny the Uſe of this diſtinct Name for obvious Reaſons, 'tis proper we acquaint the Student that they had the Sanction of Antiquity, who employ'd it to diſtinguiſh this Shrub.

MATHIOLUS indeed objects, this cannot be the Tree which PLINY and the *Romans* call'd *Laburnum*, becauſe that Author gives to his *Laburnum* Strings of Flowers a Cubit long: but this is not concluſive.

In *England*, where we raiſe the Shrub in Gardens, there is not this Length: but CAMERARIUS has cited judicious Perſons, and of unqueſtion'd Veracity, to prove that where it is wild in warm and favourable Climates, the Cluſters of Flowers are longer than PLINY's Meaſure of them.

Thoſe among the old Authors, whoſe Doubts have prevented their adopting the Name *Laburnum*, join this with the *Anagyris*, diſtinguiſhing it from that, in its not ſtinking when the Leaves are bruis'd, by the Addition of *Non fœtida*: but this is wrong: the Plant is as evidently diſtinct from *Anagyris*, as it is connected with the *Cytiſi*.

LINNÆUS found the Characters thoſe of this Genus; and, refering it hither, he adds, as its Diſtinction from the reſt, *racemis ſimplicibus pendulis, foliolis ovato oblongis: Cytiſus*, with oval oblong Leaves, and ſimple pendulous Cluſters of Flowers.

It riſes to the Height of a moderate Tree.

The Trunk is covered with a brown Bark; the Wood is white and firm; and the young Shoots are ſlender and of a pale green.

The Branches are numerous; ſo that the Tree naturally forms itſelf into a handſome Head, and the Leaves cloath it with a great deal of Beauty.

Theſe are plac'd in the trifoliate Manner; and the Footſtalk is long, ſlender, weak, and cover'd with a light ſoft Down. Each of the three Leaves is oblong, broad, rounded at the End, and undivided at the Edges.

The Colour on the upper Side is a very beautiful freſh green, and on the under Part greyiſh.

The Flowers are very numerous and very pretty; a long Series of them hangs on a weak

March. and drooping common Stalk; and they are ſeparately large, and of a delicate yellow.

Their common Stalk is tender, downy, greyiſh, and with us five Inches long, or more: on this the Flowers are plac'd irregularly, each upon its ſeparate ſhort Footſtalk.

The upper Petal, which is larger than the others, has ſome Blackneſs within, which gives no little Grace to the open Flower.

The Seed-veſſel is a long obtuſe Pod, and contains ſeveral Kidney-like Seeds. Even this Pod is not without its Beauty: tho' green at firſt, it acquires a fine brown afterwards; and when fully ripe is hard and gloſſy.

The Cup, receiving the Baſe of each Flower, is ſmall, hollow, and divided into two Lips at the Rim. The upper of theſe Lips is ſplit into two, the lower into three Parts.

The Flower itſelf is regularly papilionaceous, and is form'd of four Petals. The Vexillum is of an oval Form, it riſes upwards, and its Sides turn back; the Alæ are plain and ſtrait, and the Carina is hollow and pointed.

The Filaments coaleſce into a long Body, only one is left looſe: nine are in the Body, whoſe Opening on the Back is covered by the ſingle one. The Style is ſingle, and accompanies the Filaments in their riſing Diſpoſition.

The Student will, from theſe Characters, find no Difficulty in refering the Plant to its proper Claſs. This is the *Diadelphia.* It receives thoſe Plants whoſe Filaments are thus connected into two Bodies; and is, in a Manner, peculiar to the *papilionaceous* Kinds. The Section to which this Tree belongs is the *Decandria.*

Culture of this CYTISUS.

It is a Native of many Parts of *Europe*, and thrives beſt where it has the richeſt Soil, and, where with moderate Moiſture, there is moſt Sun. This ſhews us the two great Articles of its Culture, a deep Soil, and a South or South-weſt Aſpect. March.

It is to be rais'd from Seeds; and for theſe no Hot-Bed or other artificial Aſſiſtance is required: they grow freely in the open Ground, and defy our Winters.

Seeds ripen'd here will raiſe good Trees; but when there is Opportunity of obtaining them freſh from *Italy*, ſuch will be greatly preferable.

They ſhould be kept dry during Winter; and this is the Seaſon for ſowing them.

Let the Gardener now dig up a ſmall Piece of rich Ground in his Seminary, and ſow the Seeds not too cloſe. Let him ſift half an Inch of good light Mould over them; and ſcatter upon the Surface a few Pieces of Furze-Buſh.

In the Beginning of *April* the young Plants will appear, and the Buſhes are then carefully to be taken off.

A Fortnight after this, let them be weeded carefully by Hand, and thin'd where they croud one another. After this Weeding give them a gentle Watering; and, unleſs natural Showers perform the Office, repeat this once in four Days for ſome Time.

Let them all Summer be kept clear from Weeds; and at the Approach of Autumn place a Reed-Hedge for their Defence againſt cold Winds.

In the Beginning of the *March* following, tranſplant them into another Bed, at two Foot Diſtance, leaving as many Seed-Plants unremov'd as will ſtand at ſuch Diſtance in their original Bed.

They may now ſtand two, three, or four Years; and then will be fit to remove into the Garden, where they are to remain, among the Flowering-Shrubs.

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2. ITALIAN PHILADELPHUS.

Pl. 27. Fig. 2. This elegant Shrub is familiar to the Gardener, tho' under another Title. Cuſtom has ſtrangely connected it with the *Lilac*, under one common Name *Syringa.* They are altogether unlike, and the Diſtinction is as old as ATHENÆUS. 'Tis his Name *Philadelphus*, which LINNÆUS has choſen for the proper Diſtinction of the Genus.

CLUSIUS has call'd it *Frutex Coronarius*; but, with the generality of others, the Addition of the Word *Alba*, *White Syringa* is us'd to diſtinguiſh it from the *Lilac*; as if the Flowers of that Shrub never were of that Colour.

Its Fragrance in the ſingle State of the Flower recommends it greatly; but we here treat of the Shrub in a much more elegant State, the Flower adorn'd with numerous Petals, and the Scent leſs powerful, but not therefore leſs pleaſing.

This is only a Variety of the common ſingle *Syringa:* it has obtain'd the Name *Italian*, from the firſt Appearance of it in that Country; and the Species is diſtinguiſh'd by LINNÆUS by the Addition *foliis ſubdentatis: Philadelphus*, with lightly indented Leaves.

It is a wild and irregular Shrub; but in its rudeſt Form is not without Beauty.

The Root ſpreads far under the Surface. The Stalks are numerous and ſlight, brittle though woody, full of Pith, and covered with a pale Bark. The young Shoots are ſlender jointed and green.

The Leaves are plac'd on ſhort Footſtalks; and they are large, and of a ſtrong tho' not bright green. They are uneven on the Surface, pointed at the End, and irregularly indented at the Edges. Their Taſte has the Flavour of a Cucumber.

The Flowers ſtand thick upon the extreme Branches, and are of a Snow-white, extremely beau-

March. beautiful and fragrant. They are compos'd of three or four Rows of broad Petals, and have in their Centre numerous Filaments. Their Smell is not unlike that of the Orange-Flower, but leſs rich: hence the Vulgar call the Shrub Wild Orange, and Mock Orange. The Fruit which ſucceeds theſe, is a Capſule; oval, pointed at each End, and ſurrounded in the Middle with the Cup.

This is the moſt elegant State of the Shrub; but 'tis in the ſingle Flower the Student is to ſearch the Characters and diſcover to what Claſs it belongs.

This is compos'd of four Petals: it is plac'd in a ſmall Cup fix'd on the Rudiment of the Fruit, and divided into four Parts at the Edge. In the Centre ſtand twenty Filaments, crown'd with upright Buttons, mark'd with four Furrows.

The Student knows he is to trace theſe Filaments to their Origin, to find whether the Plant is of the *icoſandrous* or *polyandrous* Claſs; that being the diſtinctive Character where the Filaments are ſo numerous. They are here inſerted into the Cup, whence the Shrub is refer'd to the firſt of thoſe Claſſes; and its ſingle Style ſhews that it is one of the *Monogynia*, its firſt Section.

Culture of this PHILADELPHUS.

It is a Native of the warmer Parts of *Europe*, in the ſingle State; and lives beſt where there is a mellow Soil, and ſome Moiſture.

The double one is a Creature of the Gardener's Art, and therefore requires no different Soil from the ſingle. There is, however, a Secret in regard to it which our People do not know.

The common Way of propagating it is by Suckers, and it thus degenerates: here and there only there appears, upon a Shrub thus rais'd, one double Flower, the others being all ſingle; but it is not ſo where it is rais'd from Seed.

This therefore we recommend: and the Gardener will, by following that Practice, ſhew in *England* the ſame Elegance in this Shrub it boaſts in other Countries where better cultivated: he will have whole Branches of double Flowers, and will no longer envy the happy BESLER that ſtrange Phænomenon repreſented in his faithful Figure. This is the whole Secret. March.

With Reſpect to the common ſingle Kind, it ſuffers nothing in the Propagation by Suckers; and as theſe are produc'd abundantly, and root freely, it will be beſt, in Reſpect of that Kind, to continue the ſame Method.

In *September* let the Suckers be clear'd from the old Trees, and planted two Foot aſunder in the Seminary: they will require a little Water in dry Seaſons; and at all Times to be kept clear from Weeds; and thus in three Years they will be fit to plant out into the Garden: where a deep rich Soil ſuits them beſt; but they will grow in any.

If the double Kind be rais'd from Suckers, the Shrubs will thrive very well, and they will here and there ſhew a double Flower; but a hundred will be ſingle for one that has this Beauty. Therefore let Seeds be regularly obtain'd for this Kind, and the young Plants treated with the Care they deſerve.

In *Italy* the double Flowers are frequently follow'd by perfect Seed-veſſels, which ripen the Seeds well and freely.

Let ſome of them be obtain'd from thence, and ſow'd with Care.

The ſecond Week in *March* is the Time; and the Method is this:

Chuſe a ſhelter'd Spot in the Nurſery, and dig into the Ground a good Quantity of Pond-Mud: break it very fine, and ſcatter on the Seeds.

Cover them a quarter of an Inch with the ſame Mould, and throw a few White-Thorn Buſhes upon the Ground: theſe defend the Place, and do not cover it ſo cloſe as Furz: this is a Shrub whoſe Seeds will not grow, unleſs they have free Air.

When the Plants appear, let them have frequent gentle Waterings; carefully clear the Spot from Weeds; and from Time to Time, when the Mould is dry, draw up ſome about their Stems.

At the Approach of Winter ſtick up ſome Furz-Buſhes about them, and among them, to break the Force and Sharpneſs of the Winds; and the next Year plant them out at two Foot Diſtance. They will riſe to their full Perfection this Way, and will never degenerate.

3. DOUBLE LADY-SMOCK.

Pl. 27. Fig. 3. This is a Wantonneſs of Nature in a wild Plant of our Meadows; from whence ſome Gardener brought into his Ground, and ſupply'd his Acquaintance.

This ſeems to have been the Caſe from what we know; for our Meadows at this Time frequently afford the *Double Lady-Smock*; and nothing is more uncertain than the raiſing it from Seed.

But tho' we receive it from the Field, it puts on a new Majeſty in the Garden; the Flowers attain three times their natural Bigneſs; and they have often a Bluſh of fleſhy red, which gives them a new Luſtre.

No Plant is more common than the *Single Lady-Smock* in our moiſt Paſtures; and the Species is the ſame in either Caſe. The Doubleneſs of a Flower we have repeatedly told the young Botaniſt, is a Variety, no Mark of a ſeparate Species.

All the Botanical Writers have deſcrib'd the Plant in this ſimple State, and moſt of them under the Name *Cardamine*; ſome, *Naſturtium magno flore*;

and others, after Dodonæus, *Flos Cuculi.*

Linnæus retains the Generical Name *Cardamine*; and diſtinguiſhes the Species to which this elegant Variety belongs, by the Addition of *foliis pinnatis, foliis radicalibus ſubrotundis caulinis lanceolatis*: Pinnate-leav'd *Cardamine*, with the Pinnæ roundiſh on the Bottom Leaves, and on thoſe of the Stalk lanceolated.

In Gardens the rounded Pinnæ are ſcarce; tho' common in Meadows, and the whole Plant is larger: this, and the Multiplicity of Petals to the Flower, is all the Difference.

The Root is thick, and furniſh'd with innumerable long tough Fibres.

The Stalk is round, upright, and a Foot or more in Height, rediſh at the Bottom, and of a dark green upwards.

The Leaves are long and pinnated: their Colour is a freſh and lively green; and the Pinnæ are oblong, narrow, and pointed: they are of a tender Subſtance; their Footſtalks are often reddiſh; and the main Stalk ting'd with the ſame Colour where they are inſerted.

The Flowers are of the Breadth of a Shilling, ſwelling into Roundneſs from a ſmall Baſe, and form'd in the Manner of a very double Roſe, of innumerable Petals plac'd in ſeveral Series: theſe are narrow at their Baſe, broader to the Extremity, and there frequently wav'd and curl'd along the Edge.

Their Colour is uſually Snow-white, and in this State they make a very delicate Appearance. We have obſerv'd that they ſometimes get a Bluſh of Crimſon, and this gives them a new Life and Beauty.

The Fruit or Seed-veſſel is a Pod; but that, as alſo the Characters of the Claſs, are to be ſought in the wild Plant, where the Flower is ſingle. In this State the Multiplicity of Petals takes the Place of the Organs of Impregnation: no Filaments appear with Regularity; nor does the Fruit follow.

In the ſingle and natural State of the Plant, the Flower is compos'd of four broad Petals, plac'd croſs-wiſe; and has a Cup form'd of four oval Leaves. The Petals have very ſlender Bottoms, longer than the Leaves of the Cup.

The Filaments in the Centre of the Flower are ſix; and of theſe four are longer, and two ſhorter: they have all oblong, little, and heart-like Buttons.

The Rudiment of the Pod ſupports the Stigma without any intermediate Style; and the Pod which follows, is ſlender, and form'd of two Valves, which ſeparate with Violence when it is ripe, and roll back. The Seeds are roundiſh.

The fifteenth Claſs in the Linnæan Syſtem, contains thoſe Plants in whoſe Flower there are four Filaments longer than the others: to that Claſs therefore the *Cardamine* belongs.

The Student will remember, that when theſe Filaments, in any Flower, are unequal in Length, the Claſs is to be ſought not from their Number, but according to that Irregularity.

The Sub-diviſion of this Claſs is made from the Form and Structure of the Seed-veſſel, according to an old Diſtinction, into *Siliquoſæ* and *Siliculoſæ*: the *Siliquoſæ* having long and ſlender Pods, and ſcarce any Remain of a Style at the End; and the *Siliculoſæ* having ſhorter Pods, terminated by the Remain of the Style, equal, or nearly ſo, to the Seed-veſſel itſelf in Length.

This Plant therefore belongs to the *Siliquoſæ*, the ſecond Diviſion under the *tetradynamious* Claſs.

Culture of the Double Lady-Smock.

This is one of the hardy Plants which bear all Seaſons in our open Borders, and require little Care or Culture: but unleſs a peculiar Place be choſen for it, the Plant will pine, and the Flowers never have half their natural Beauty.

We have directed the Gardener, in his Culture of Exotic Plants, to deſign his Compoſt and Situation according to the Soil and natural Place of Growth of the Plant, deſcrib'd in Books: for this, upon the ſame Principles, he needs only to conſult the Book of Nature, every Meadow will ſhew him the favourite Soil and Situation of this Plant; and this he is as carefully to obſerve in its Management.

Let him fix upon a low Part of the Garden, where Wet naturally lodges, and where there is not too much Sun. Then let him dig out the Mould, and put in its Place a Compoſt made of rich black Meadow-Earth, and one fourth Part Dung, from an old Melon-Bed; with this let him mix a ſmall Quantity of coarſe Sand.

In Autumn let him part the Roots of this Plant gather'd wild, if there be any double ones near; if not, let him procure ſome Roots parted from another Stock.

Let theſe be planted at ten Inches Diſtance, and cover'd one Inch with the Mould. Nothing more need be done than keeping the Ground clear from Weeds after this. The Plants will flower early the ſucceeding Year, and encreaſe abundantly.

Pl: 27

1
Broad leav'd Pendulous flower'd Cytisus

2
Italian Philadelphus

3
Double Lady Smock

4
Broad leav'd Pulmonaria

Long Spiked Cytisus

Dwarf Piony

J. Hill delin. et sculp.

4. BROAD-LEAVED PULMONARIA.

Pl. 27. Fig. 4. This is another of the hardy Plants which early decorate our Borders in the open Ground; and need no more Care than their firſt Plantation.

It will live in any Soil or Situation; but will thrive moſt perfectly in a rich mellow Earth; where there is ſome Damp, and where there is Shade and Shelter.

It very well merits to have the Place carefully choſen; for not the Flower alone is beautiful, but the Leaves.

Moſt of the old Writers on Plants have nam'd it: but from their vague Denomination, *Pulmonaria*, a Title given to a great many Plants beſide this, and altogether unlike to this or one another, the Gardener has been ill taught to call it *Lungwort*.

This *Engliſh* Name is only an uncertain and confus'd one, but the Plant has others altogether abſurd.

It is call'd *Bugloſs Cowſlips*, and *Sage of Jeruſalem*, tho' it neither is at all ally'd to the Cowſlip, nor is a Native of that Part of the World.

Thoſe who have nam'd it *Pulmonaria*, add many Epithets of Diſtinction, *Italica*, *latifolia*, and *macucloſa*.

C. Bauhine calls it *Symphytum macucloſum*, as well as *Pulmonaria latifolia*.

Linnæus, retaining the latter Name for this Genus, baniſhes from it the unlike Plants; and adds here, as the Diſtinction of the Species, *foliis radicalibus ovato cordatis ſcabris: Pulmonaria*, with the radical Leaves rough, and of an oval heart-like Form.

The Root is compos'd of numerous thick white Fibres, of an inſipid and mucilaginous Taſte.

The firſt Leaves are numerous, and they ſpread themſelves into a wild irregular Tuft. They are broad, ſhort, and ſharp-pointed, undivided at the Edges, and of a deep green, ſpotted variouſly and irregularly with white.

The Stalks are numerous, and ſix or eight Inches high, hairy, and of a pale green.

The Leaves on theſe are oblong, and have no Footſtalks: they are of the ſame Hue with thoſe from the Root.

The Flowers riſe in a Cluſter at the Top of each Stalk, and are oblong; not large, but very conſpicuous, and finely vary'd according to their different Periods.

When in the Bud they are red; but when they open and ſhew the Inſide, their Colour is a celeſtial blue.

There are uſually, throughout the Seaſon, a great Number of Flowers in both theſe States; and they ſet off one another very agreeably. The white Spots on the Leaves join alſo very happily in Contraſt: and the moſt unaccuſtom'd Eye never paſſes the Plant unnotic'd. It is not of the Rank of a Flower, yet worthy a Place in every Garden.

The Flower is compos'd of a ſingle Petal, and is plac'd in a tubular Cup. This is form'd alſo of one Piece, and is mark'd with five Ridges, and divided by five Indentings at the Rim. The Flower alſo is tubular in the lower Part, and at the Edge is divided into five broad Segments, which ſtand wide open. In the Opening of the tubular Part are plac'd five very ſhort Filaments, and theſe are terminated by erect convergent Buttons.

The Style is ſingle, tho' it riſes from a four-parted Rudiment of a Fruit: the Seeds which follow are four, and they ſtand naked in the Cup.

The five Filaments ſhew the Plant to be one of the *Pentandria*, the fifth of the Linnæan Claſſes; and the ſingle Style declares it one of the *Monogynia*.

Culture of this Pulmonaria.

The Plant is a Native of the colder Parts of *Europe*, as well as the warmer, and will live freely in any Situation. It thrives beſt wild by the Sides of Woods, where the Earth is rich and light, and not too wet.

This is the Rule for its Cultivation:

A Place ſhould be choſen where the Sun has not too much Power; and the Soil ſhould be freſh Paſture-Earth, with ſome rotted Cow-dung.

It may be rais'd from Seeds ſown in ſuch a Spot, and left to Nature: but it is ſo common, and thrives ſo well from parted Roots, that few will take this Trouble. It is however very right to be done.

We propoſe to teach the Gardener how he ſhall raiſe the moſt common Things to their greateſt Perfection; and ſhall give, in the Management of this Plant, an Inſtance, by which it will very much exceed all of its Kind ſeen in common Gardens.

Let a Piece of a Border be choſen in a South-Eaſt Aſpect, and in a low Part of the Ground: let the Mould be dug out, and freſh Paſture-Earth put in its Place.

In this, about the Middle of *October*, plant ſome parted Roots of the *Pulmonaria*, at a Foot and half Diſtance; and at the ſame Time ſcatter a good Quantity of the Seeds over the Surface between.

In Spring the parted Plants will flower, and the Seedlings will appear. Let them be kept clear from Weeds, and have at Times a little Water.

In Autumn take up the parted Roots, and thin the Seedlings to a Foot aſunder.

In the following Spring theſe will flower very well. At Autumn let them be taken up, the Earth dug out of the Border, and freſh Mould from

March. from a Paſture, with ſome rotted Cow-dung put in. In this let them be planted at fifteen Inches Diſtance; and the next Spring they will be in their full Beauty. March.

5. LONG-SPIKED CYTISUS.

Pl. 27. Fig. 5. There is no Plant of its Kind ſo ſingular as this, nor any one ſo beautiful. The *Cytiſi*, in general, are very ornamental in our Gardens, but this deſerves its Place beyond them all.

The old Writers have been acquainted with it: they have call'd it, ſimply, *Cytiſus*, ſome *Pſeudo Cytiſus*, and *Cytiſus nigricans*. It is the ſecond enumerated by Clusius, and thence has alſo been diſtinguiſh'd by *Cytiſus ſecundus Cluſii*.—So ſervilely has it been a Cuſtom with Authors of ſuperior Merit to copy thoſe before them.

C. Bauhine calls it *Cytiſus glaber nigricans*, the ſmooth black *Cytiſus*: a Name as indeterminate, as the other is unmeaning; yet by one of theſe two it is generally known among Nurſery-men and Gardeners.

Linnæus has taught thoſe, who can underſtand him, better: he retains the Generical Name *Cytiſus*; and adds, *racemis ſimplicibus erectis, foliolis ovato oblongis: Cytiſus*, with upright undivided Cluſters of Flowers, and oblong oval Leaves.

The Root is woody, blackiſh, ſpreading, and hung with a few ſtrong Fibres.

The Stem is woody and as thick as a Child's Arm, five Foot high, and naturally ſpreading into many Branches; ſo that, when well train'd, it makes a good Head and an elegant Figure.

In its natural Growth there riſe uſually many ſmall Shoots, inſtead of one main Stem; but this Way it has leſs Beauty.

The Bark is brown, the young Shoots are green, with a Tinge of rediſh; and toward the Tops they have a ſilky Down.

The Leaves ſtand three upon each Footſtalk, except that, at the Summits of the Branches, near the Spikes of Flowers, there uſually are a few ſingle ones, ſlight, and imperfect, and with ſcarce any Footſtalks.

The Stalks of the others are ting'd with browniſh, where they join the Branch. The ſeparate Leaves are of a Figure approaching to oval, but too long for that Name; and they have a ſtrong browniſh Middle Rib. Their Colour is a deep duſky green upon the upper Side, and they are hairy and pale below.

The Flowers are extremely conſpicuous and beautiful; they terminate all the Branches when the Shrub is well manag'd, and the whole Head appears of gold. They are arrang'd in very long upright Spikes, and their Colour is the moſt glorious yellow that can be conceiv'd; they are not ſmall in themſelves, and in the Spike are very pompous; they ſtand cloſe, crowding one another, and open in a long Succeſſion.

The Characters of the *Cytiſus* Flower we have already given under the firſt Head in the preſent Number, and need not repeat them at large here. This agrees in them: the Cup is bilabiated, and the Flower papilionaceous: the Filaments are ten, in two Aſſortments, and the Seed-veſſel a long Pod. The Plant is therefore one of the *Diadelphia Decandria*.

As it agrees with the firſt nam'd Kind in Characters, ſo it does in Culture. The Seeds ſhoot freely; and, being a Native of *Europe*, it bears our Winters. It requires moderate Waterings, and the Soil freſh Paſture-Ground.

6. DWARF ORIENTAL PIONY.

Pl. 27. Fig. 6. This is a very ſingular and valuable Plant, more familiar in the *Dutch* than in the *Engliſh* Gardens, but very worthy to be extended, from among the few who have it with us, univerſally. Its humble Growth and pleaſing Colour give it great Recommendation; and its early Appearance more.

The candid Reader will not expect that every Plant we deſcribe in Succeſſion, in theſe Numbers, will riſe to flowering at our Call, in a Seaſon ſo ſevere as this has been; nor that in any Year theſe Things anſwer exactly. There are ſometimes Springs as remarkably forward as the late Froſts have made this backward; and there are Situations in which Plants flower earlier than uſual; the peculiar Day or Week of any cannot be determined.

This is a very early Piony, and has been thence nam'd by the common Writers; that and its humble Stature furniſhing the Diſtinction, they have call'd it *Pæonia pumila*, and *Pæonia præcox*.

Linnæus retains the Name *Pæonia*, but he gives it to all the Kinds without Diſtinction, ſuppoſing the male, the female, and promiſcuous Piony, Varieties from one original Stock.

This is more different from them all, than they from one another; but whether it claims the abſolute Rank of a Species diſtinct from them, we ſhall not (without more Proof from repeated Experience) decide, againſt the Opinion of one ſo juſtly reſpected.

The Root is tuberous and irregular: compos'd of numerous oblong fleſhy Parts, connected by long Fibres.

The Leaves are divided in an irregular and uncertain Manner, into many Segments, and theſe are of a firm Subſtance. On the upper Side they are of a deep blackiſh green, with white Veins, ting'd about the Baſe with Crimſon; and their under Side is greyiſh.

It is round, firm, upright, and ten Inches high, uſually ſingle, and the Support only of a ſingle Flower.

This Stalk is purple at the Baſe, of a pale green upwards, and ſmooth.

The Leaves on it are rarely more than two: they are plac'd at Diſtances; one near the Ground, and the other not much below the Flower. Theſe reſemble thoſe from the Root, in Colour and in Subſtance: they are alſo divided at the Edges with the ſame Irregularity, and their Veins ting'd more deeply.

The Stalk is red where they adhere to it; and a faint dying Tinge of the ſame Colour diffuſes itſelf over a ſmall Part of them from the Baſe.

One Flower, we have obſerv'd, uſually and naturally terminates this undivided Stalk. This is very large, but not double, various in Colouring: but in whatever Degree it poſſeſſes the Crimſon, that is naturally ſo conſpicuous in its Petals, it is very full of Beauty.

The Floriſt will have great Reaſon to pride himſelf upon the Variety of Colouring good Management will give it; and to the Botanical Student it will be valuable, becauſe the Parts are large, and he will trace the Characters with Eaſe.

The Flower in the Plant's wild State, wherein it paints at early Spring the Mountains of *Navarre*, varies in Colour thro' all the Degrees of Red, but moſt frequently it is of a pale Crimſon; ſometimes altogether white: in Gardens it will be brought to much more Beauty and Variety.

Beſide the pure Snow-white, and the various Degrees of Red ſeen in different Flowers, well-manag'd Seedlings will be painted like ſome of the Tulips, the Body of the Flower white, and this diverſify'd with Clouds and Streaks, and Veins and Blotches of the fineſt Crimſon. 'Tis thus we have repreſented it; and to this Perfection we ſhall lead the careful Gardener to raiſe the Plant.

The Student in our Science, neglecting theſe light Ornaments, traces the Form and Structure of the Flower, its Parts and Characters; for this Purpoſe let him ſelect one of the leaſt luxuriant Plants: on thoſe moſt valu'd by the Gardener there are uſually ſix Petals in the Flower, but this exceeds by one the common Number; he will find them five in the moſt natural Flower, very broad, ſmall at the Baſe, and moderately expanded.

The Cup is form'd of five hollow Leaves, of a pale green on the Outſide, and ting'd within with red. In the Centre are plac'd a vaſt Number of fine ſlender Filaments, thirty or more; and at their Tops ſtand large, oblong, and ſquare Buttons.

The Rudiment of the Fruit forms two Bodies, on each of which, without any intermediate Style, reſts a ſingle compreſſed Stigma. The Fruit that follows, is form'd of two Capſules, large, and crooked.

This is the common and moſt natural Conſtruction of the Parts; and by theſe the Plant is refer'd to the *Polyandria Digynia*; the numerous Filaments riſing not from the Cup but Receptacle; and the Stigmata, tho' there are no Styles, being two. But this, tho' the common, is not the certain Number in theſe female Parts: Nature in no Flower wantons more than in the Piony. Frequently in this and the other Kinds, the Seed-veſſels are three, four, or even five; but theſe are accidental Changes.

Culture of this PIONY.

The Plant is a Native of *Europe*, and thrives beſt in the moſt temperate Climates. It is found on the Sides of Mountains, and in the Neighbourhood of Springs.

This we muſt endeavour to imitate in the Garden, tho' it is not very eaſy: and the nearer we approach to it, the more perfect we ſhall make the Plants.

The parted Roots propagate it freely, and ſucceſsfully enough; but the elegant Method will be to raiſe it from Seeds.

Let a Part of the Garden be choſen in an open elevated Spot, where Rains take their Courſe toward the lower Ground, or where the Drippings of ſome Eves of a Building fall upon a higher Spot at little Diſtance. Here dig out a Border; and having remov'd the Earth, throw in the following Compoſt:

Mix four Parts of rich Meadow-Mould with one Part of rotted Dung from an old Melon-Bed: fill the Place with this, level the Surface, and ſcatter over it the Seeds gather'd from a ſtrong growing Plant; no Matter for the Colour. Sift on a Quarter of an Inch of Mould, throw ſome Buſhes over the Ground, and leave the reſt to Nature.

The Plants will riſe freely enough, and they will require little Care. The Weeds muſt be at Times deſtroy'd; and now and then the Bed muſt have a gentle Watering.

The ſucceeding Autumn there muſt be half an Inch of freſh Meadow-Earth, without any Mixture, ſifted over the whole Border; and the next Spring the Plants will flower. There will be many Degrees of Colouring among them, and ſome elegantly painted.

The inferior Kinds muſt be taken up the following *September*, and planted out in other Places, and the finer Plants left at a Foot Diſtance.

Let the Bed be again refreſh'd in Autumn with a new Covering of Mould; and the next Spring will ſhew their full Glory. The Mould muſt be drawn up about their Stems as they riſe, and frequent gentle Waterings muſt be allowed, to ſwell the Flowers.

CHAP. II.

The Management of the Flower-Garden, Greenhouſe, and Stove.

IF any Part of this Ground be left vacant, or require Variety, this Week the Gardener may plant many of the biennial and perennial Flowers: *Golden Rods*, *Perennial Aſters*, *Columbines*, *Buphthalmums*, and *French Honeyſuckle*; but as the Seaſon advances, more Care muſt be taken in the Plantation, or they will flower weakly the firſt Year.

Let the Places be all mark'd and Holes open'd for the Roots before any are taken up: let the Holes be larger and deeper than at other Times; and let the Mould at the Bottom be well looſen'd, and chop'd fine with a ſharp Trowel.

This done, let the Roots be taken up in the Nurſery, with very large Balls of Earth, and brought carefully upon a Spade one at a Time: let them be ſet even in the Hole; and when they are in, let the extreme Fibres be ſpread out with a Stick, cut ſmooth for that Uſe, and their Ends then ſnip'd off with a Pair of ſharp Sciſſars. Then let the Mould be thrown in lightly and carefully from the Blade of a Trowel; and the Hole being fill'd up, let a little be ſifted over the Crown of the Root: then give a gentle Watering, and the next Day a larger.

Quickneſs in the doing all this is a very great Article for Succeſs. The Air ſhrivels up the naked Roots, and does more Hurt than is uſually thought: it is avoided by theſe Precautions. And when I have ſtood over the late Removals of Plants myſelf, I have found them thrive the better for them; inſtead of receiving any Check.

With this Care, the Removal anſwers the Purpoſe of that uſeful digging about the Roots which we have ſo much recommended: and the Spring Plantation may probably exceed the Autumnal.

Little is known of this: no Part of the Gardener's Buſineſs is perform'd ſo ill. A Chop in the Ground with a Spade is their common Way of opening the Hole, and the fibrous Roots are doubled in and forced down in this unnatural Condition with the ſame Inſtrument; and mangled by its rough Edge.

Is it a Wonder theſe Plants thrive amiſs? Where can there be Hope in ſuch a rude and ignorant Plantation! Yet this is all. 'Tis therefore we read in thoſe among them, who have undertaken Authorſhip, the great Advantage of an Autumnal Plantation. The Roots, ſay they, have Time to fix themſelves in the new Ground before Spring; and indeed a great deal is requir'd to overcome ſuch Management.

In the Way we propoſe, this Length of Time is not needful; and for theſe Plants we have nam'd, and many others, the Spring Setting ſucceeds full as well.

Two Things conſtitute the Difference between the Autumnal and Spring Plantation, in the Eye of Reaſon; the one is the Nature of the Plant, and the other the Condition of the Ground: the firſt is little known, and the other as little regarded. We ſhall propoſe both fairly.

With Reſpect to the Nature of the Ground, it has been juſtly determin'd by all Writers, that where that is dry, the Plantation is beſt made in Autumn; and where it is moiſt, in Spring. The Reaſon is plain; for the Roots which ſhould grow, may, in the wet Soil, rot. This is known; and we need only caution the practical Gardener to pay a ſufficient Regard to it.

As to the other, it depends upon the Principle of Growth, which in all Plants varies; and in ſome vaſtly.

A Willow Stake roots in the Ground, and makes a longer Shoot in two Years, than an Oak in ten. As this Principle is ſtrong or weak, haſty or ſlow, in what appears above Ground in Plants or Trees, ſo it is alſo with Regard to their Roots. All are to be cut off at the Ends in Planting; and all ſhoot new Fibres from the Part thus wounded; but it is done ſlowly in ſome, and readily in others. On this depends the Choice of a Spring or an Autumnal Tranſplantation for different Kinds, ſuppoſing the Soil equal.

This has not been regarded; at leaſt not diſclos'd hitherto: but we have obſerv'd it in various Species; and what we have ſeen the Public ſhall ſhare with us.

We ſhall direct the Spring or Autumnal Tranſplantation of Plants and Trees according to this Principle.

Where the Roots ſend out new Fibres ſlowly, the Autumnal is the fitteſt Seaſon; but where that Growth is quick, the Spring is vaſtly preferable.

We deſire to give all Vigour to the Plants during their Summer Shew; and this depends upon the Quantity of Nouriſhment they draw: the new Fibres take in moſt, and that never ſo freely as when juſt produced: their Mouths are then all open, and the new-broken Earth is full of their proper Food.

On this depends the ſwift Progreſs of Plants

EDEN:

A
COMPLEAT BODY of GARDENING.

NUMBER XXVIII.
For the Middle of *MARCH.*

SECTION I.
FLORA, or *the* PLEASURE-GARDEN.

CHAP. I.
Flowers and curious Plants now in their Perfection.

1. DOUBLE-BLOSSOMED CHERRY.

March.

Pl. 28. Fig. 1.

OUR Student knows the Multiplicity of Petals in a Flower does not raiſe the Plant, in which they are found, to the Rank of a diſtinct Species: where this is all the Difference, Botany conſiders the Double and Single as the ſame Plant; and in this Work, while we regard with the Gardener's or the Floriſt's Eye, the Beauty which reſults from ſuch Luxuriance, we conſider the Plant or Tree as the ſame with that which bears the ſimpleſt Flower; and refer thither for its Character.

The *Double-bloſſom'd Cherry* is a Variety of the common Kind; and indeed a very elegant one. Its Beauty has not eſcap'd the Attention of the Botanical Writers. C. BAUHINE, and the reſt, name it *Ceraſus hortenſis flore pleno.*—The Student will know he is to refer it to the common Cherry; but he will be a little ſtartled to hear the modern Syſtem takes away the Name *Ceraſus* even from this.

LINNÆUS, whom all follow, refers the Cherry to the *Prunus* Kind; and our Botaniſt muſt, after him, call it *Prunus pedunculis ſimplicibus, foliis ovato lanceolatis, conduplicatis:* Single-ſtalk'd *Prunus*, with conduplicated Leaves, of an oval but ſpear-pointed Form.

In his former Works a ſhorter Diſtinction ſerv'd this Tree, and he retain'd its uſual Name *Ceraſus foliis ovato lanceolatis:* the oval ſpear-pointed leav'd Cherry. This HALLER and VAN ROYEN follow.

March.

The Tree will riſe to a conſiderable Height; but it is better kept at an under Growth, with a full Head, that its Flowers may ſtand cloſe, and give their Beauty diſtinctly to the Eye.

The Stem is covered with a dark brown Bark; the Branches are numerous and ſtraggling; the young Twigs ſlender and tough.

The Leaves are numerous, oblong, of a Shape ſomewhat approaching to oval, but running out into a Point; ſerrated at the Edges, and of a deep green.

The LINNÆAN Term *Conduplicated*, which we have preſerved in the Tranſlation of the Name, regards the Diſpoſition of the Leaves while in the Bud.

The Leaves of Trees are variouſly diſpos'd while bury'd in that little Lump; and this Term expreſſes ſuch as in that State lie with the two Sides parallel. We have expreſs'd it in ſome of the leſs open'd Leaves in the annexed Figure.

The Flowers are double in a various Degree, on different Kinds, as the Gardener calls them: in ſome there are only three Rows of Petals; and in this State the Tree is call'd *Ceraſus flore roſeo:*

in others the Series are much more numerous, and the Flower ſo full that it becomes globular. This is the moſt elegant State.

The Colour is a perfect white; and when the full Head of a ſmall Standard Tree is profuſely covered with them, it appears at ſome Diſtance a Ball of Snow; and the nearer it is view'd the more it charms.

Each Flower ſtands on its own Footſtalk, which is tender, and of a pale green, ſtain'd with red. Many of theſe riſe together, and the whole Cluſter is very elegant. No Fruit follows.

Nature, exhauſted by this Redundancy of the Petals, purſues her Courſe no farther. An Accident may leave a Fruit on ſome Chance Bough; but the natural Reſult is Barrenneſs.

Speaking of the Cherry in its double State, we muſt refer the Student to the common Bloſſom of our Fruiting-Trees, to find the Characters. He will perceive in that a vaſt Cluſter of Filaments riſing from the Cup, and crown'd with doubled Buttons.

He finds from this the Tree is one of the *Icoſandria*; and, by its ſingle Style, that it is of the *Monogynia*.

The Cup is form'd of a ſingle Piece, hollow'd and divided at the Rim into five Segments. The Body of the Flower is compos'd of five broad Petals.

The Fruit needs no Deſcription; roundiſh, juicy; and, in a hard Stone, containing a ſingle Kernel.

Culture of the DOUBLE-BLOSSOM'D CHERRY.

The Propagation of the Double Cherry muſt be by budding upon the common wild Red Cherry Stock: and it is very well worth the Care; for there is not any Shrub of all the Flowering Kinds ſuperior to it in Beauty.

Some uſe the common Black Cherry Stock for this Purpoſe, but it is a wrong Practice, for that is too ſtrong a Shooter. The Red Cherry Tree, in its wild State, grows to leſs Height, and ſends out more and ſhorter Branches.

This therefore would in itſelf be more proper for forming a ſmall Tree with a tufted Head; and this the Gardener is to obſerve here, and on all other Occaſions, in Reſpect of Grafting and Budding.

Altho' the Wood form'd afterwards be of the Nature of that from whence the Bud or Graft was taken, the Root remains the ſame as in the wild State of the Stock, and ſo do the Veſſels of the remaining Part of the Trunk. Theſe receive and tranſmit the Nouriſhment in their original Way; and this will influence the ſhooting even of the adopted Parts. Let this Rule be univerſal: and in no Point ſo ſtrictly obſerved as in this.

Experience ſhews alſo another Advantage; the Red Cherry Stock is more durable than the Black. With good Management, a budded Stock of this will form, in a few Years, a well headed Tree, and laſt without End.

Theſe Stocks are to be rais'd in a Nurſery-bed from Kernels; and when they have been two Years planted out they will be fit to bud.

This is the beſt Method of propagating the double flower'd Kind; but it is the moſt uncertain: however, the Danger is not much; for as Summer is the Seaſon for Budding, if that fail, they may be grafted afterwards in Spring.

In the Beginning of *July* take off ſome Cuttings from a very fine double-bloſſom'd Cherry Tree, and chuſe them from the healthieſt Branches, and ſuch as are moſt full of Flowers.

Look carefully over the Stock for a Part where the Bark is ſmooth and fine. In this Place cut it a-croſs to a good Length, and then, from the Middle of this Croſs cut, make a Slit downwards, half a Finger's Length. The Knife us'd for this Purpoſe, ſhould have a ſhort, firm, and ſharp Blade, and a ſmooth flat Handle. Care muſt be taken, in both theſe Cuts, to go thro' the Bark perfectly, and not to wound the Stalk.

Take the Leaf from the Bud, but leave the Footſtalk remaining; and make a Cut in this croſs-wiſe, a Finger's Breadth below the Eye: then with the Knife ſlit off the Bud, with Part of the Wood; and take away that Part of the Wood that was left with the Bud. This muſt be done with Care, to prevent the Eye from being loſt, which often happens in the ſtripping. In ſuch Caſe the Bud is to be thrown away, and another choſen, proceeding with more Care, and leaving the Bud unhurt in its Place.

The Bud thus prepar'd, is fit for Uſe. The Bark of the Stock muſt be rais'd clear from the Wood, and the Bud thus prepar'd let in.

The Bark muſt be rais'd with the flat Handle of the Knife; and if the Rind left to the Bud be too much to go into the Slit, it muſt be cut away.

See that the Bud falls cloſe and even with the Wood of the Stock, and that it be well ſecur'd by the Rind; then tye it round with ſome old Baſs, ſoak'd in Water. The whole muſt be bound cloſe and even, but the Eye of the Bud not cruſh'd or cover'd.

If the Bud has not been well join'd to the Stock, or if its Eye have been torn out with the Wood, or hurt in the ſtripping, it will decay in about three Weeks; ſo that ſuch as continue plump and healthy at the End of that Time, may all be conſider'd as good ones. The Tyeing is at this Time to be looſen'd; and this is the whole Operation.

The Spring following, the Head of the Stock is to be cut off at about a Hand's Breadth above the Bud, and the Tree will flouriſh. A Shoot will be made from the Bud, which muſt be gently ty'd up to the Head of the Stock, to ſecure it from

March. from Injuries. The Spring following, this Head of the Stock muſt be cut off clean to the Place of the Bud, and the Head from that Time will cover it. March.

2. PERUVIAN HYACINTH.

Pl. 28. Fig. 2. 'Tis in Compliance with old Cuſtom that we preſerve here the Name *Peruvian Hyacinth* to this Plant; and that the Gardener may underſtand us at the ſetting out. He would be ſtrangely ſurpriz'd to find us at once calling it by that Name which we are now to acquaint him properly belongs to the Plant, this is *The Conic flowering Squil.*

Linnæus has juſtly ſeparated the Plants call'd *Starry Hyacinths*, from the common Kind known under that Name; and however bold it may to the unexperienced Eye appear in him, to have refer'd theſe all to the *Squil* Kind, he has the Authority of evident Nature, and has done it with perfect Juſtice.

The common Writers call this Species, after Bauhine, *Hyacinthus Indicus bulboſus ſtellatus*; or, after Clusius, *Hyacinthus ſtellatus Peruvianus.* This Name, ſhorten'd of its Epithet in Tranſlation, has given the *Engliſh* Gardener his Term *Peruvian Hyacinth.*

Linnæus, very correct and diſtinctive in his Names of Species, calls this *Scilla radice ſolida corymbo conferto conico:* Solid-rooted *Scilla*, with a cluſter'd conic Tuft of Flowers.

The Root is large, oblong, firm, and weighty, cover'd with a brown Bark, and ſending out, from a prominent Baſe, many thick Fibres.

The Leaves are very conſpicuous, tho' not more than four or five in Number: they are ſix or eight Inches long, conſiderably broad, hollow'd, obtuſe, and of a fine green.

The Stalk is thick, juicy, and of a pale green. At the Top it forms a large Head, by ſending out a Multitude of fine ſlender Footſtalks. Theſe are of a deep purpliſh Hue; and as they are longeſt in the lower Part of the Cluſter, and ſhorter toward the Top, the whole Tuft is regugularly of a conic Figure, thick, ſhort, broad at the Baſe, and pointed.

The Flowers are extremely elegant in themſelves, and this vaſt Tuft of them makes a moſt ſplendid Appearance. One terminates each of theſe Footſtalks. The Size is conſiderable, the Form ſtarry, and the Colour a celeſtial blue.

There is a Variety of the Plant in which they are white, and ſometimes fleſhy, or tinctur'd with a pale Crimſon; but theſe, tho' beautiful, are far below the elegant and perfect blue which is the natural Colour.

In ſome well cultivated Plants there is a Glow of purple with the blue, which is extremely beautiful. The various Mixture of the red, gives the violet Tinct to ſome, and to others a true purple: in all theſe Colours the Plant is of extreme Beauty.

As the Shortneſs of the Footſtalks at firſt, in the upper Part of the Cluſter, is owing only to their being not ſo full grown as thoſe below, the Continuance of the conic Figure of the Tuft depends upon the Manner of Flowering.

In the uſual Way of managing the Plant, too much Sun prevents the perfect Opening of the upper Flowers; and the Tuft keeps, throughout the ſhort Time of the Bloom, its original conic Form: but we ſhall direct the Gardener to manage it ſo that the whole Number may open in Succeſſion; and in this Way the flowering of one Plant will continue a Month; and as the upper Flowers diſplay themſelves, the conic Form will ſwell into a kind of rounded Umbell: and the Gardener's Art ſhall ſet aſide one Term in the Linnæan Name, dependent only on imperfect Management.

The Flower is compos'd of ſix Petals; theſe are of an oval Form, ſharp-pointed, and diſplay'd as the Rays in a painted Star. It riſes naked from the Footſtalk.

In the Centre ſtand ſix Filaments, ſmaller upwards, ſhort, and crown'd with oblong incumbent Buttons. In the Midſt of theſe riſes a ſingle Style from the rounded Rudiment of a Seed-veſſel, which when ripen'd, becomes oval, with three Furrows, and contains, in ſo many Cells, numerous roundiſh Seeds.

No Plant more obviouſly ſhews its proper Claſs: it is one of the *Hexandria Monogynia* of Linnæus.

Culture of the Starry Hyacinth.

The Name *Peruvian* given at firſt univerſally to this Plant, led People to believe it muſt be ſought in that remote Part of *America*; but it was ſoon found nearer home.

Clusius, and the others of his Time, receiv'd Notice from Boetius, that the Salt-Marſhes and Meadows near the Openings of Rivers in *Spain* and *Portugal* abounded with it, in full Luſtre.

Its Soil there is a black rich Mould, tender and moiſt, and a little impregnated with Sea Salt. This gives the true Rule for its Culture: this has been unobſerv'd; and therefore the Plant has ſeldom in our Gardens, however much admir'd, arriv'd at its full Beauty.

The many propagate it from Off-ſets; but to the Gardener who deſires to excel his Cotemporaries, the Method is from Seeds, and we ſhall direct him how to follow this Courſe ſucceſsfully. In either Caſe, the Compoſt muſt be the ſame: and let it be prepar'd in Time in the following Manner:

Mix equal Parts of the richeſt black Mould from under the Turf in a Meadow, and pure River-Mud: add to a Load of theſe two Buſhels of old Cow-dung, and two Gallons of Sea Water.

Mix the Ingredients well together, and throw them up in a Heap, ſprinkling on the Sea Water at Times as the Heap is made up.

Let our Gardener keep ſtrictly to the Direction we give him: Sea Water muſt be us'd; and if he fancies common Salt made into Brine is the ſame Thing, he will deceive himſelf. Sea Water contains other Ingredients beſide the Salt: the Bittern with which it abounds, is compos'd of a vitriolic, acid, and an abſorbent Baſe, and with this there is a bituminous Oil; great Aſſiſtants to Vegetation.

This juſt Obſervation is laid down in all its Force by Dr. Home, an Author in whoſe ſmall Tract * we find more Knowledge than in many Volumes before publiſh'd, and to whoſe Merit we are proud to give this Teſtimony; having ſeen the Doctrine confirm'd by repeated Experience.

Let this lie to mellow.

Obſerve what Plants flower ſtrongeſt, and mark one of them for Seed; there will be a ſufficient Quantity from a ſingle Head. Let it ſtand till the Seed-veſſels are perfectly harden'd, then cut it off entire, and lay it on a Shelf cover'd with Paper, and having a Ledge of Paper alſo to prevent any of the looſe Seeds falling off; here they will harden in their Huſks, and toward *Auguſt* they may be carefully ſhaken out, and ſpread looſe upon the Shelf to prepare for their Sowing. This is a Thing not enough underſtood or conſider'd.

When Seeds are put into the Ground without this hardening, their pulpy Subſtance rots before they can ſhoot; but when they are thus prepar'd, the Principle of Life in the Eye juſt begins to operate, before the Moiſture brings on the deſtructive Fermentation.

Nature proportions the Firmneſs of this Subſtance, in every particular Plant, to the Principle of Life in the Bud. When that is ſlow of Growth, this Subſtance is more hardly mellow'd; when it is quick, this gets it juſt Conſiſtence ſooner: but, with this Preparation, hardening in the Air is always intended.

In the Courſe of Nature, Seeds remain in their Huſks a long Time, many long after the Plant is dead; its dry Stalk yet ſupporting itſelf erect; and when the Wind ſhakes them out, they fall only on the Surface of the Ground, where they are not ſo immediately moiſten'd. We often ſow them too haſtily, and uſually bury them too deep. There is the more Need of this Caution therefore of drying them.

Theſe Principles are univerſal: we take ſuch Opportunities as occur moſt fitly for relating them; and the Gardener is to underſtand them, in general; not alone of the particular Subject.

In this Inſtance, the Seeds will be well dry'd toward the latter End of *Auguſt*, and they ſhould then be ſow'd in ſuch a Manner as will give the Gardener Opportunity of managing them at his Pleaſure, with regard to Sun and Shade.

Let a Couple of Boxes be nail'd up of rough Boards, ſix Inches deep, and four Foot by three in Extent. Mix up as much of the Compoſt as will fill theſe Boxes, with one fourth Part its Quantity of middling Sand. It muſt be either River Sand, naturally clean, or Pit Sand, waſh'd by pumping on it till the Water runs off clear.

Mix theſe very well together, and fill the two Boxes; make the Surface fine and level, and ſcatter on the Seeds. Take a calm Hour, and ſpread them equally and not too cloſe.

Sift over theſe a quarter of an Inch of the ſame Mould, and lay ſome Pieces of Buſhes over them lightly, to prevent Accidents.

Set the Boxes in a Place where they may have the Morning Sun ſix Weeks; then place them open to the South, and allow them all the Warmth that can be: and when Froſts ſet in, cover them with a common Frame, ſuch as is us'd for Hot-Beds. In the milder Days raiſe the Glaſſes; and when the Earth is too dry give gently a little Moiſture.

In Spring the young Plants will appear, then remove the Buſhes; but continue the Boxes under the Frame till all Danger of Froſt is over; then ſet them out in a warm Place: keep the Surface carefully free from Weeds; and now and then allow a little Moiſture.

As Summer advances, the Boxes muſt be mov'd again, and ſet where they have only the Morning Sun.

In *Auguſt* following, refreſh the Roots with a Covering of a Finger's Breadth of the Compoſt all this Time mellowing for Uſe; and defend them from the Froſts.

The ſucceeding *Auguſt* is the Time for planting them out; and now the Heap of Compoſt comes into Uſe, let a Part of the Garden be choſen that has a South-Eaſt Aſpect, and let the Earth of a Border be taken out; fill the Place with the Compoſt; lay the Surface level, and draw Lines lengthways, at four Inches Diſtance, and croſsways at three.

The Bed will thus be mark'd out into long Squares: in the Midſt of each open a Hole with a Trowel, broad enough, and two Inches deep; lay up the Mould at the Edge.

This ready, ſift the Earth in the Boxes, and ſeparate the Roots without injuring them. Plant one in each Hole; and draw in the Earth carefully over it.

At the Approach of Winter hoop over the Bed; and in hard Weather cover it with Canvas. In Spring clear the Ground of Weeds; and during Summer, at Times, water it. At Autumn ſift on ſome freſh Compoſt half an Inch, and defend them during Winter.

This is the whole Management, and the Trouble of it will be very well repaid. The fifth Spring will ſhew their Flowers; and from the ſame Seed there will be White, Fleſh Colour, Crimſon, Blue, Purple, and Violet, in all the Tinges.

Let the fineſt be mark'd; and at the End of *Auguſt* following, let a good Bed of common Mould be prepar'd for the Reception of the others.

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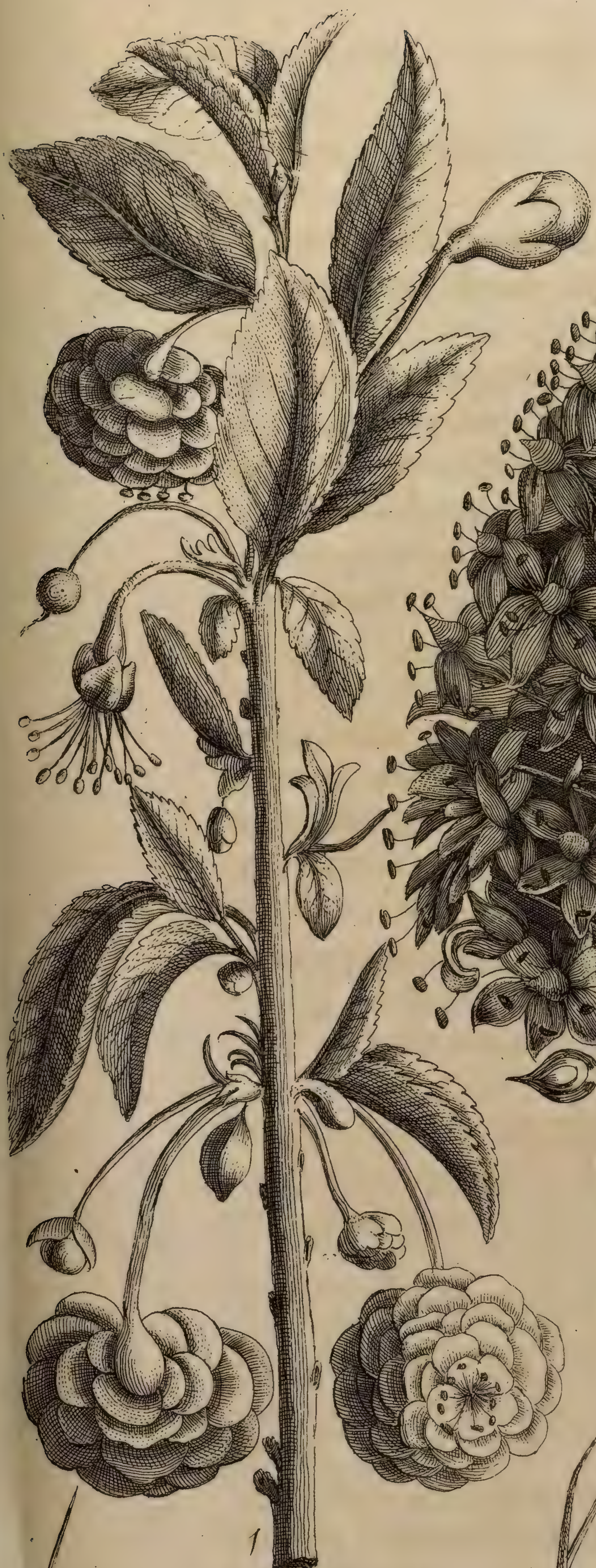
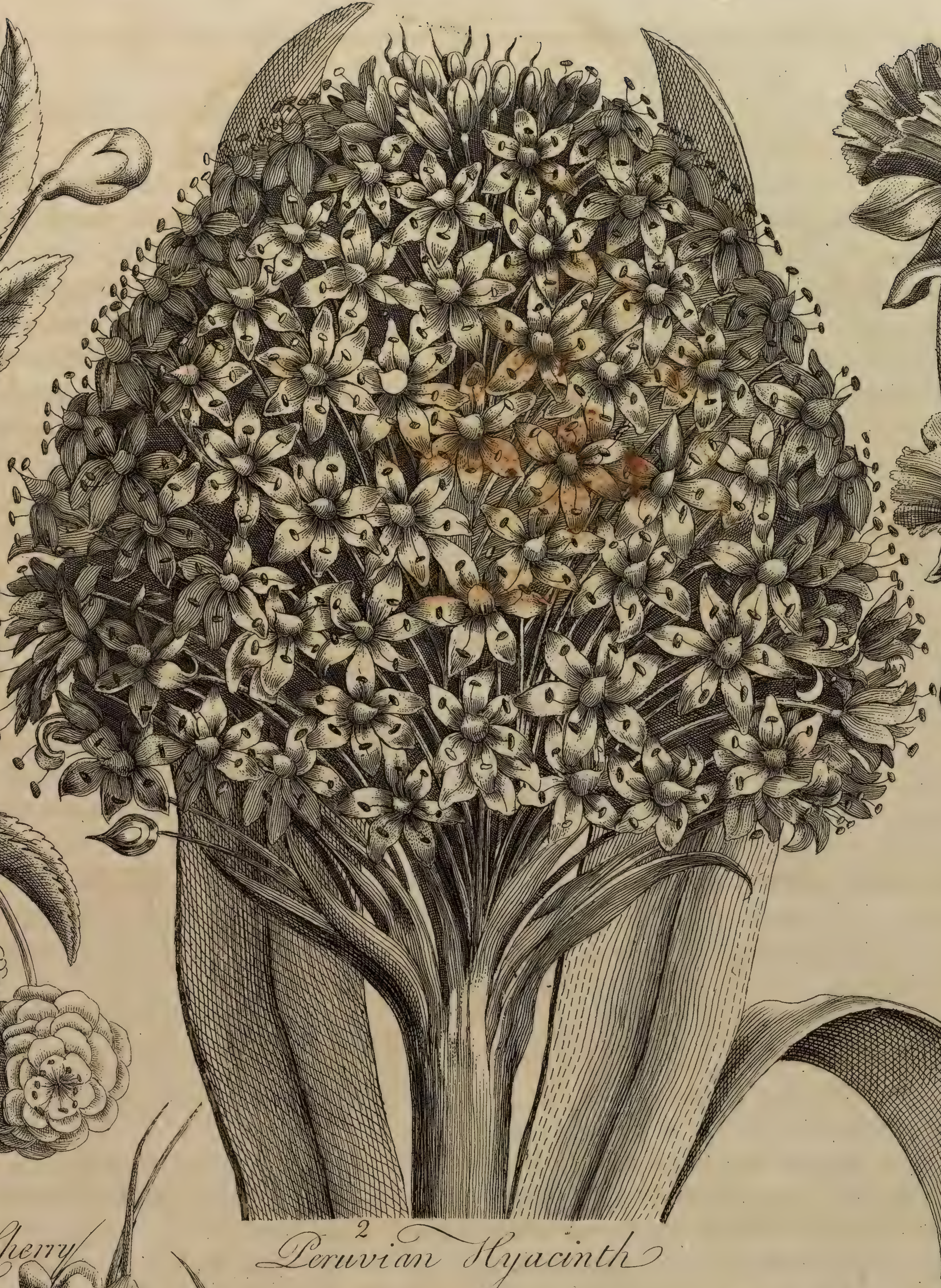
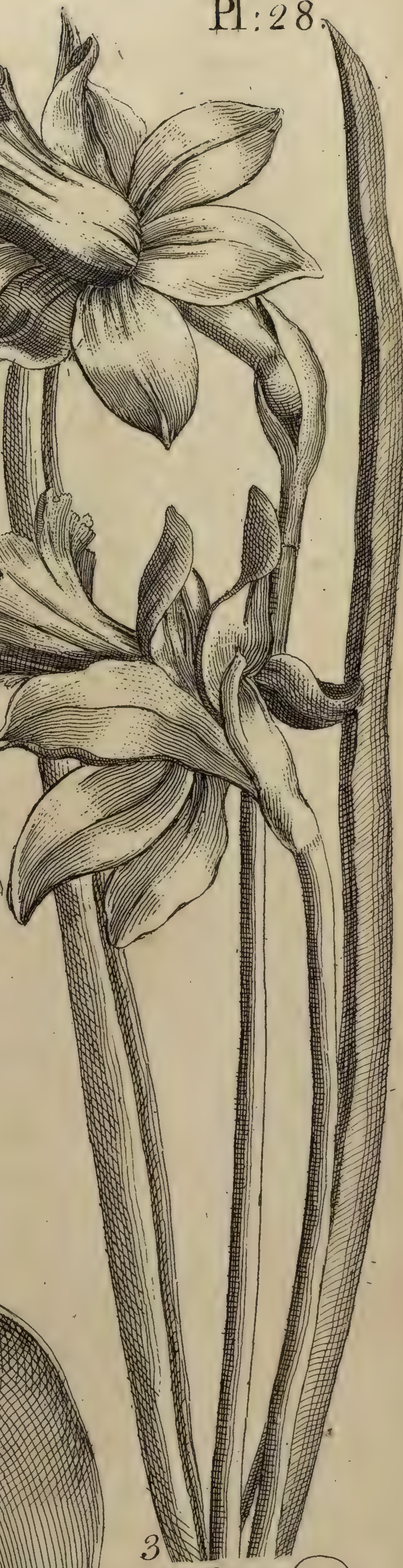
* "*Principles of Agriculture and Vegetation.*" The Eſſay which obtain'd the Prize of the *Edinburgh* Society.



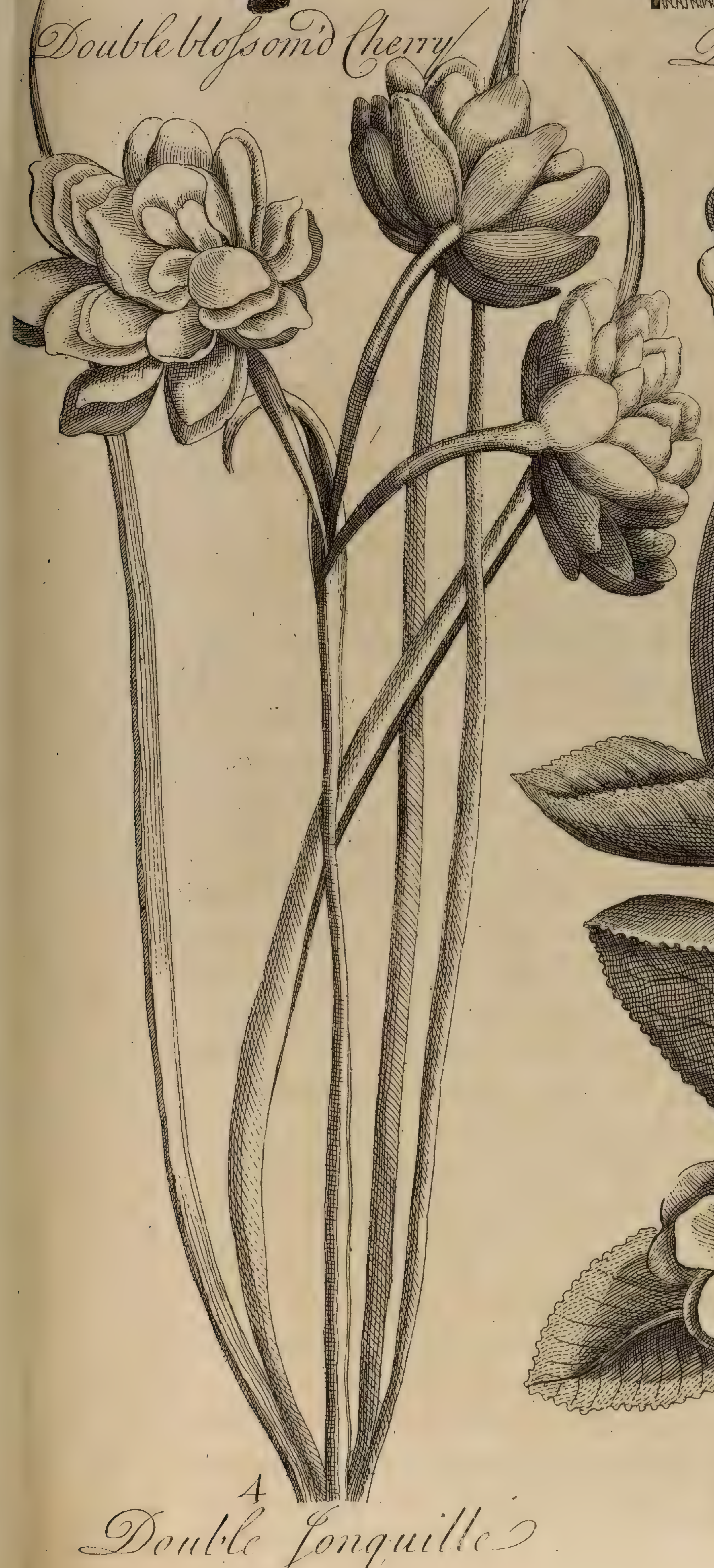
1
Doubleblossom'd Cherry



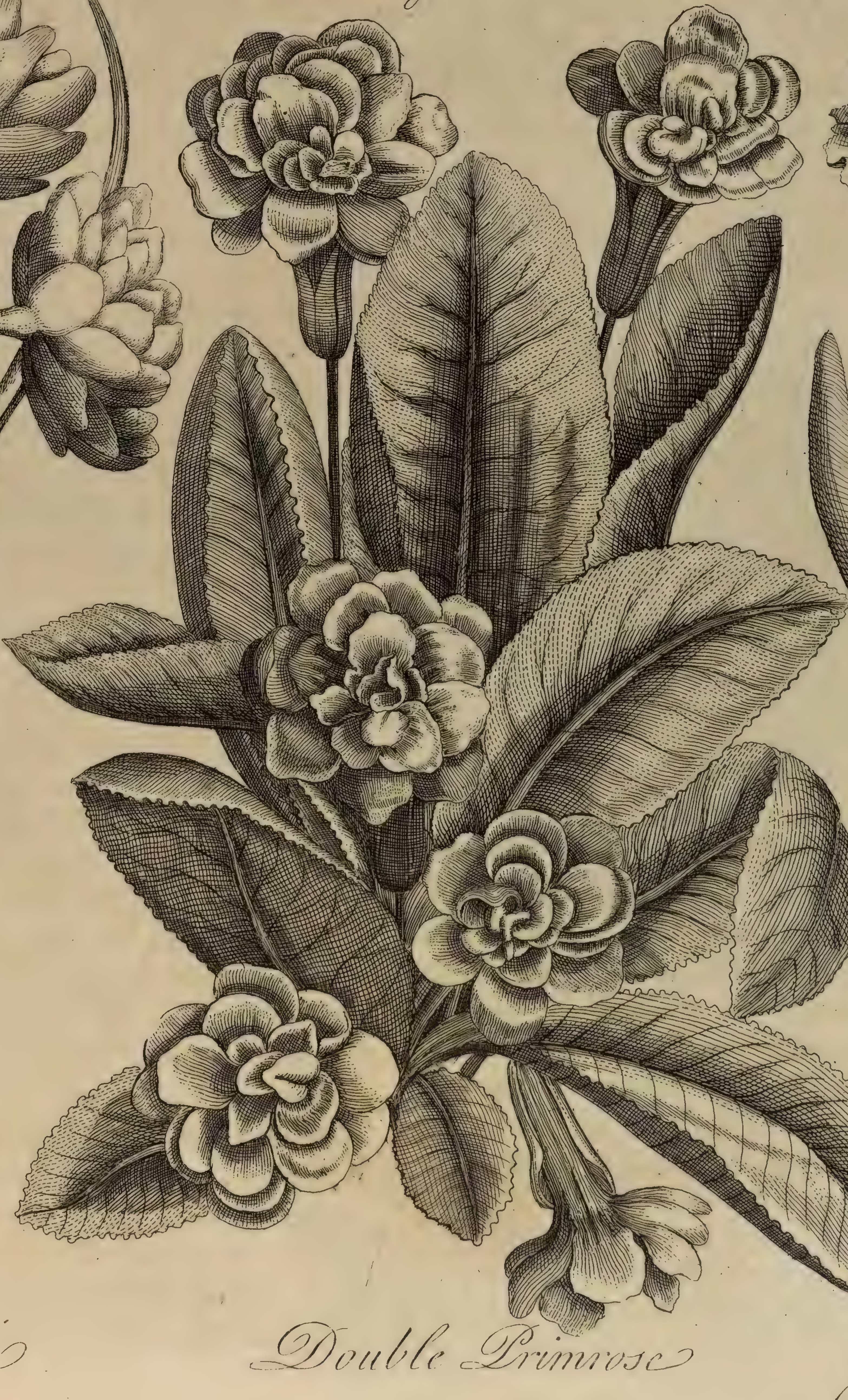
2
Peruvian Hyacinth



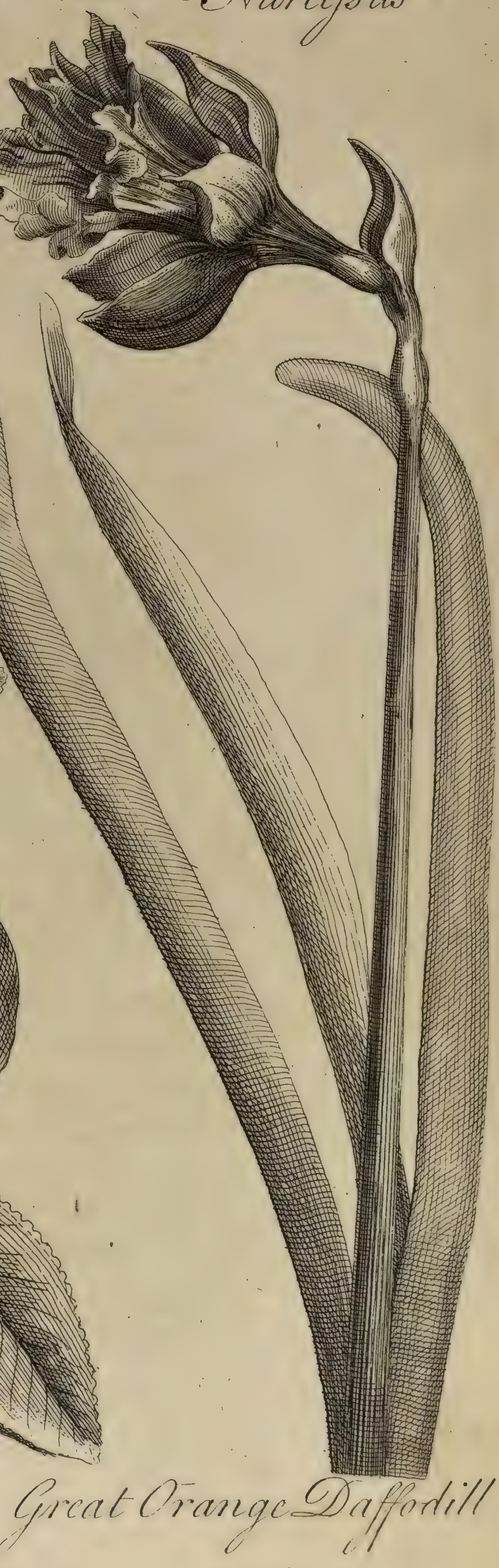
3
Gold cup'd Narcissus



4
Double Jonquille



Double Primrose



Great Orange Daffodill

In the Beginning of *September* let them be taken up, and planted at a Foot Diſtance in the new Bed. Here let them ſtand two Years, that they may have full and fair Time to ſhew their Flowering. After this, let the beſt be preſerv'd alone, and the others planted out in leſs regarded Places.

The fine Plants left in the original Bed, muſt ſtand at about a Foot Diſtance; and they alſo will flower much more beautifully the ſucceeding Year.

After this, they will only require to be kept at all Times free from Weeds; and once in four Years to be taken up.

At this Time the old Compoſt muſt be taken out of the Border, and its Place muſt be ſupply'd with a freſh Quantity got ready for that Purpoſe. The Off-ſets muſt be taken off with Care at the ſame Time, and planted in a ſeparate Bed, and the old Roots plac'd at regular Diſtances in the new Compoſt.

The laſt Week in *Auguſt* is the proper Seaſon for doing this. The Roots ſhould not be kept out of the Ground, but planted as ſoon as the Off-ſets are taken off, the freſh Border is made up, and the Places mark'd to receive them.

3. GOLD-CUP'D NARCISSUS.

Pl. 28. Fig. 3. The Varieties of *Narciſſus* rais'd by Culture are much more numerous than the Species we have from Nature: the Botaniſt, ſtrictly deciſive, owns but few; but in this Work we ſhall not omit the moſt conſiderable of the various Forms reſulting from Culture, refering each to its original Kind.

This Kind is call'd ſomewhat at Random by our Gardeners, *Spaniſh Narciſſus*; by ſome, the *Middling Spaniſh Narciſſus*; and, by thoſe who aim at more Diſtinction, a *Pſeudo-Narciſſus*.

LINNÆUS calls the Species, to which it belongs, *Narciſſus foliis enſiformibus florum Nectario longitudine Petalorum:* Sword-leav'd *Narciſſus*, with the Nectarium of the Flower equal in Length to the Petals.

In the common Growth this Species has the Rim of the Nectarium broad, but tolerably plain: in this State, Culture ſwells that Part into more Extent; and folds and plaits its Sides, and undulates its Verge.

The Root is roundiſh, full of a ſlimy Juice, and hung with many Fibres.

The Leaves are long, and of a pale green; at firſt they are hollow'd, but when they have ſtood ſome Time they ſpread out flat, and grow yet paler.

The Stalk is a Foot and half high, naked, edged, and of a deeper green; and on its Summit ſtands a ſingle Flower. This is very large, and of conſiderable Beauty. Its burſts out ſideways from a pale green Scabbard, which is, before this Opening, oblong, compreſs'd, and blunt at the End. This ſerves it as a Cup, and withers ſoon after the full blowing.

The Body of the Flower is form'd of ſix large Petals, oblong, broad, of a ſomewhat oval Form, and of a Nectarium which equals them in Length, and is folded and rumpled at the Sides, and at the Extremity expanded in Form of a Bell, with a wav'd, irregular, and ſinuated Rim. This Gardeners call the Cup.

The Colour of the entire Flower is yellow; but in various Degrees. The Petals are of a faint and pale but very pleaſing Tinct; and the Nectarium is of a deep gold yellow: this is finely diverſify'd by the Light and Shade thrown in by the various Foldings; and it reſembles, when the Flower is well nouriſh'd, a Vaſe of beaten Gold.

'Tis hence it has obtain'd in *Holland* the Name of the *Golden Cup*; and they, with Reaſon, prefer it to many of the gaudy and moſt double Kinds.

From the Inſide of the Nectarium, in its tubular Part, ariſes ſix Filaments, not very long, but crown'd with large Buttons. The Style which appears among theſe exceeds them in Length, and is ſingle, but terminated by a Top or Stigma, divided into three Parts.

The Claſs of the *Narciſſus* is obviouſly found in theſe Characters, and the Diviſion under which it is plac'd. It is one of the *Hexandria Monogynia*.

Culture of this NARCISSUS.

The Plant in its wild State is native of almoſt every Part of *Europe*: it will therefore bear, without Danger, the worſt Cold of our Winters in the open Borders of a Garden; but as ſome Care muſt have been taken to raiſe the Flower ſo much above itſelf, the ſame Attention muſt be allowed, wherever it is propagated to continue it in that Luſtre.

This is the Caſe of all theſe enrich'd Varieties: if left unregarded, they, by Degrees, ſhrink back into their original Plainneſs: we mention'd this under an Article wherein it is moſt plainly conſpicuous, the Degeneration of the *Proliferous Daiſy*; which, if left but a few Years unregarded in the Ground, tho' at firſt ever ſo well adapted to its Nature, loſes its irregular Offſpring firſt, and then its Size and doubled Rows of Petals; till, after four or five Seaſons, the ſame Root bears a common py'd Field Daiſy.

'Tis the ſame here. The Foldings, Curls, and Colour of the Nectarium will be loſt, unleſs Care be taken of the Roots; and the Plant, ſhewing moſt plainly its Original, will ſink into the common wild baſtard Daffodil.

Our Gardener is, by this Time, ſo well inſtructed in his Principles, that few Words will inform him under this Particular.

To preſerve the Plant in its Beauty, the Bed muſt be renew'd once in two Years; and to improve its Luſtre, (for ſo far we would have him carry his Art) it muſt be rais'd from Seed.

The Compoſt we recommended for the *Narciſſus*, deſcrib'd in a late Number, will perfectly ſuit this; and it may be propagated from Off-ſets, or rais'd from Seed.

The beſt Method is to purchaſe *Dutch* Roots, rais'd from the true Kind by Off-ſets in their Gardens; and from the beſt Produce of theſe to collect Seeds for a freſh Progeny. Thus the firſt Shew will be equal to any others; and the ſucceeding Plants will probably exceed them.

The firſt Year let them flower; and cut down the Stalks before they form the Seeds. Then when the Leaves are wither'd, take them up, dig out the Mould, and fill the Place with new Compoſt: plant in the Roots again, and cover them up carefully with Mould. Let their Diſtance be fourteen Inches; and keep the Surface clear from Weeds. The ſucceeding Spring theſe Roots will flower much ſtronger than the firſt, and they muſt then be examined critically.

The fineſt Flowers muſt be mark'd for Seed, by ſetting up a Stick near them. The fineſt are thoſe which have, 1. The ſtrongeſt Stalk; 2. The largeſt Flower; and, 3. The Nectarium moſt folded, curl'd and wav'd, and of the higheſt gold Colour.

The Seeds muſt be ſav'd from theſe with Care; and in the Beginning of *September* ſown in Boxes of the ſame Compoſt us'd for the Roots. Till *October* they muſt have the Morning Sun only: from that Time to *March* they muſt be ſet open to the Noon Sun; and during Summer they muſt be plac'd ſo as to have only the Morning Sun again. The Earth when too dry, muſt be gently water'd; and Moſs and Weeds clear'd off with Care.

At two Years ſtanding the Roots muſt be taken out of this Mould, by ſifting it, and planted at four Inches Diſtance in a Bed of the ſame Compoſt.

Thus will they be brought to flowering, and there will then be found a great Variety among them: many will be inferior to thoſe from which the Seeds were ſav'd; many much finer.

The ordinary Kinds muſt be planted out in different Parts of the Garden; and the fineſt, in a Bed by themſelves, every Year remov'd.

4. DOUBLE JONQUILL.

Pl. 28. Fig. 4.

The Botaniſt will know we are not here out of the *Narciſſus* Kind. The *Jonquille* obtain'd its Name from the ruſhy Figure of its Leaves; and is properly call'd more at large the *Jonquille Narciſſus*.

So the Plant we call the *Tuberoſe*, was originally, tho' not properly, refer'd to the *Hyacinth* Kind, and call'd the *Tuberoſe Hyacinth*; tho' the Generical Name was afterwards ſunk in the ſame Manner as in the *Jonquille*, and the Plant call'd *Tuberoſe*.

The proper *Engliſh* Name of the *Jonquille*, is the Ruſh-leav'd *Narciſſus*. We repreſent it here in a State of conſummate Beauty; with the Flower larger than in the common Growth, and full with multiply'd Petals.

The Colour, in itſelf elegant in a very high Degree, here has the Advantage of Light and Shade with great Variety; and, upon the Whole, few of the *Narciſſus* Kind excel it.

In the ſingle State Authors have call'd it *Narciſſus jucufolius luteus*, with a Diſtinction from the Size *major* and *minor*, as if that conſtituted different Species. In this double State they name it *Narciſſus jucifolius flore multiplici*.

Linnæus, expreſſing the whole Diſtinction of the Plant in its ſpecific Name, calls it *Narciſſus ſpatha multiflora Nectario campanulato brevi foliis ſubulatis:* Subulate-leav'd *Narciſſus*, with many Flowers from the Scabbard, and the Nectarium ſhort and Bell-ſhap'd.

This Form of the ſingle Flower we ſhall ſhew in a ſucceeding Plate, treating of another Kind.

The Leaves are diſtinct in this as in the other Appearance, ſmall and equal at the Bottom, but diminiſhing to the Point. This is the Senſe of the Term *ſubulated*.

The Root is roundiſh, large, and compos'd of many Coats. The outer Skin of a duſky brown, and the inner ones white. From the Bottom there run many Fibres.

The Leaves are few, rarely more than three or four, often but two, from a Root; and they are long, and of a fine green: they are not flat, as in the common *Narciſſus*, but rounded on the Back, and ruſhy; browniſh toward the Bottom; but for the reſt of a fine bright green, and hollow'd along the inner Side.

The Stalk is round, not very ſtrong, a Foot high, and of a pale green, except at the Baſe, where it is often whitiſh. This riſes terminated by a ſlight Scabbard, containing the Rudiments of the Flowers. When they are perfected for blowing, this thin Film burſts on one Side, and three or four of them appear ſpreading themſelves into a kind of elegant Noſegay.

They are, in this improv'd and double State, very large, full of Petals, and thoſe diſpos'd in ſo many Series, that it was not amiſs in Lobel to deſcribe the Plant by the Term *flore rotundæ circinitatis roſeo*; but he err'd, in ſuppoſing with the reſt, that it differ'd as a Species.

The Flower is throughout yellow, but not without ſome Variety of Tinge: the Backs of the Petals are more duſky, the Inſides paler,

ler, and the middle Petals are paleſt. The Light and Shade from their accumulated Numbers, gives a great deal more apparent Variety; but thus much is in Nature.

The internal Structure of the ſimple Flower is the ſame with that of the *Narciſſus* laſt deſcrib'd, except that the Nectarium is ſhorter. We refer to that Account, inſtead of repeating the Number and Form of the Filaments, and other Parts here; and have choſen for this Reaſon alſo, the double Flower for the Figure.

The Plant is of the ſame Genus with the preceding; therefore certainly of the ſame Claſs, the *Hexandria Monogynia*, the Sixth in the LINNÆAN Method, and its firſt Section.

Culture of the DOUBLE JONQUILLE.

The ſingle *Jonquille*, from which Art and Induſtry have rais'd this ſpecious Flower, is a Native of the warmer Parts of *Europe*: it is frequent in the Meadows of *Spain*, and at the Mountains Feet in *Portugal*; and loves a light rich Soil.

From this our rational Gardener will know that he is to ſeek no Means of Winter's Shelter, but that it will live in a well choſen Spot of open Ground; and that its proper Soil will be one of the light Composts. That we have directed for the *Narciſſus*, with a ſmall Mixture more of Sand, and ſome Earth from under a Wood-Pile, will perfectly anſwer the Purpoſe.

Let the Gardener chuſe a warm and ſhelter'd Part of the Garden; and taking out the Earth of the Border a full Spade deep, fill up with the Compoſt.

Let him draw Lines at a Foot Diſtance one Way, and nine Inches another; and in the Centre of each long Square made thus, let him plant an Off-ſet from ſome good Root.

Let him cover theſe with two Inches of the ſame Mould; and after this they will require no more Care than to be kept clear from Weeds; to be ſhelter'd in the Ground in ſevere Winters, by ſome Pea-ſtraw thrown into the Bed; and every other Year to be taken up, and have the Earth taken out as at their firſt Planting; and its Place ſupply'd with a freſh Parcel of the ſame Kind. Thus they will continue to flower ſtrong and finely, and will encreaſe themſelves by Off-ſets.

This is all the common Care, and this preſerves them. Thoſe who would improve them, muſt raiſe the Plants from Seed. The Method we have laid down for the preceding Kind, ſuits this without Alteration.

5. DOUBLE PRIMROSE.

Pl. 28. Fig. 5. The *Italian* Fields ſupply'd us with the Original of the laſt double Flower, but the Source of this we draw from Home.

The common Primroſe of our Thickets, rais'd by the Gardener's Hand, and improv'd by repeated Culture, affords the elegant and conſpicuous Flower we have repreſented in the annexed Figure: and which in Nature never fails to attract the Eye, and command a fix'd Attention.

Moſt of the old Writers have deſcrib'd it; for in this double State it has ſometimes, from favouring Circumſtances, and a Luxuriance in Nature, been found in the Fields; and it was early known in Gardens: they call it *Primula veris flore duplici*, *flore multiplici*; and *flore pleno*. In its plain and ſingle State they call it *Primula veris minor*; and *Verbaſculum majus ſingulari flore.*

LINNÆUS, who conſiders this Plant, the Cowſlip, and the Oxlip, as Varieties of one Stock, not three diſtinct Species, calls it *Primula foliis dentatis rugoſis*: Dentated and rough-leav'd *Primula.*

The Variations from the Primroſe Stock in Gardens are indeed nearly endleſs, witneſs the *Polyanthous* Kinds, of which we have ſpoken in our fourteenth Number; but whether the Cowſlip be from the ſame Stock, demands more Obſervation.

The Double Primroſe is in all its Parts, except the Flower, ſmaller than the ſingle.

The Root conſiſts of a ſmall Head, from whence run numerous long thick whitiſh Fibres.

The Leaves riſe in a Cluſter, and they have no Footſtalks: they are oblong, conſiderably broad, obtuſe at the Ends, and dented irregularly about the Edges.

Their Colour is a pale but elegant green; and they are uneven on the Surface, rough, furrow'd as it were, and mark'd with ſinking Fibres. They are ſmooth on the upper Side, but a little hoary on the underneath; and there the Ribs and Veins, which ſink in on the upper Side, are prominent, pale, and more hoary than the reſt.

The Flower-ſtalks riſe among the Leaves, numerous, pale, and delicate; of various Heights, from two Inches to five or ſix, and enclin'd in different Directions; ſo that when a Root is well eſtabliſh'd in the Ground, and in full Flower, the whole Tuft is very elegant. The Footſtalks ſupport each one Flower; they are whitiſh, ſomewhat hoary, and have no Rudiments of Leaves upon them.

The Flower itſelf is large, and of an elegant white, compos'd of numerous Series of Petals, oblong, obtuſe, rumpled and wav'd, and thrown together in a pleaſing Irregularity.

The Characters from which the Claſs ſhould be learn'd, are in a great Meaſure obliterated by this Multiplicity of Petals: they are to be ſought in the ſingle Flower; and we have already given them under the Article *Polyanthous.*

The double Flower, as the ſingle, has its long hollow Cup, mark'd with five Ridges, and divided at the End into as many Segments. The Filaments are five in the ſingle Flower, and the Style is ſingle, whence the Plant is refer'd to the *Pentandria Monogynia:* the Seeds are numerous, and are contain'd in an oblong plain Capſule, which the Cup defends, till it burſts to ſcatter them.

Culture of the DOUBLE PRIMROSE.

The common Gardener needs no other Inſtructions on this Head than to part the Roots at Autumn, and plant them in freſh Paſture-Ground, enrich'd by the Addition of a little Wood-Pile Earth and Cow-dung. Here they will keep their Beauty; and demand from him very little Care.

It will be proper to take the Roots up once in three Years; and either to plant them in new Places, or to take up the Mould, and put in freſh. At theſe Times the Roots may alſo be parted, and will thrive well. The firſt Week in *September* is the beſt Time for this Work.

To encreaſe the Variety, and obtain the Credit of more perfect Gardening, they muſt be rais'd from Seeds. This we ſhall have Occaſion to name in a ſucceeding Number; but, in general, the Method is already deliver'd under the Article *Polyanthous Primroſe.*

6. GREAT ORANGE DAFFODIL.

Pl. 28. Fig. 6. A ſhort Deſcription will ſerve for this conſpicuous Flower; for with all its Pride of Size and Singularity, it is no more than a Variety rais'd by artful Culture from the ſame Stock with the *Gold-cup'd Narciſſus* nam'd before.

Authors, whom the Singularity of its Appearance has induced to rank it as a diſtinct Species, have call'd it *Narciſſus flore maximo flavo.* It would be better expreſs'd by the pointed Form of the Petals, and lacerated Edge of the Nectarium; if a Variety deſerv'd a diſtinct Appellation.

The Student knows this is not the Courſe of Science; and we have told him that he is to refer it to the *Narciſſus foliis enſiformibus florum nectario longitudine petalorum:* Sword-leav'd *Narciſſus*, with the Nectarium equal to the Petals. In this Variety indeed luxuriant Culture brings it conſiderably to exceed that Length.

The Root is a large Bulb; and from its Baſe ſends many long thick Fibres.

The Leaves are long, narrow, flat, and of a pale greyiſh green, pointed and edged.

The Stalk is a Foot high, and ſupports a ſingle Flower. This burſts from an obtuſe filmy Scabbard, and is very large and extremely conſpicuous. It conſiſts, as in the other Daffodils, of ſix Petals, ſurrounding a vaſt Nectarium.

The Colour is throughout a ſtrong yellow; and, when the Flower is perfect, there is in it a Tinge of Orange. The Nectarium is deeper than the Petals in Colour; and in its variouſly torn and ragged Edge, has the full Luſtre of this ſingular Colour.

The internal Parts, and the ſucceeding Seed-veſſel, we have deſcrib'd already, for they are the ſame as in the before-mentioned Species: nor is its Culture in any thing different, except that it requires a mellow'd Soil, enrich'd with rotted Dung; and about the Time of its Flowering wants more Water.

It is one of the *Hexandria Monogynia* of LINNÆUS, and may be encreas'd from Off-ſets with great Eaſe. For thoſe of more Curioſity, it ripens Seeds freely and perfectly; and they may be ſown as we have directed for thoſe of the *Gold-cup'd Narciſſus*, whence there will be a Variety of new Flowers, the proper Pride of the ingenious Gardener.

CHAP. II.

The Management of the Flower-Garden, Greenhouſe, and Stove.

IF there be Vacancies in any Part of the Borders, from Caſualties or Neglect, there are ſome of the perennial fibrous rooted Plants which may very properly be this Week planted to ſupply them.

The *Buphthalmums* and ſeveral of the *Golden Rods* are of this Number; and *Pinks*, *Carnations*, and *Sweet Williams*, may be added where requir'd. But let all theſe be taken up with large Balls of Earth, and planted immediately, in Holes well open'd, and the Mould carefully broken.

Provide alſo this Week for thoſe hardy Annuals which are to be rais'd from Seed on the Spots where they are to remain. For this Purpoſe, dig well ſome ſmall Pieces in different Borders, and levelling the Surface, ſow upon one the ſmall blue *Convolvulus*, on others *Dwarf Poppy*, *Naſturtium*, and *Oriental Mallow*.

Let the Seeds be ſcattered carefully thin and regular, and let a Quarter of an Inch of Mould be ſifted over them. Careleſs or ignorant Gardeners rake them in; but this defeats the Purpoſe of that careful Sowing we directed. The Seeds are thus drawn together in Lumps in ſome Places, and there are Vacancies in others. It is not fit by any Means; for the Merit of this Sowing is, that the Plants may flower where they riſe, without Removal.

This Care taken for a Supply of the common Kinds, let the Gardener look to his Beds of valuable Flowers; they will now be in a Condition to demand his beſt Attention, promiſing ſoon to reward the Labour.

The early Tulips will be in conſiderable Forwardneſs; and the Buds will appear even on the later.

Let the Beds be arch'd with tall Hoops, and every Night covered with Canvas. According to the Weather, let this be taken off, earlier or later, in the Morning: but let it always be remov'd, as ſoon as it can with Safety, to the Plants; for free Air gives them Brightneſs of Colouring.

Let not the leaſt Bud of a Weed be ſeen among them: if the Mould be dry, two Hours after Sun-riſe give them a gentle Watering; and manage the Covering and Expoſure in a moderate Way, neither to choak nor ſtarve them.

This is the Time for removing the Boxes of young Auricula Plants from their Winter Situation. They muſt now have little Sun.

Let no Moſs or Weed appear upon the Mould; and if it grow dry, refreſh the Whole with a little Water. This muſt be given from a Pot with a very fine Noſe, and in good Order: and it muſt be held but a ſmall Height above the Surface. Heavy Watering will waſh away the Mould from the more ſuperficial Roots; and a Crack in the Head of the Pot may throw half of them out of the Ground.

The tender Annuals, ſown according to our Directions upon Hot-Beds, will ſoon be fit for Tranſplanting. The ſecond Hot-Bed now ſhould be made ready for them: they muſt be conſtructed juſt as the firſt, only the Mould which covers it muſt be very rich, and laid one Inch deeper than on the other. Theſe prepar'd this Week will be ready the next, for the Reception of the Plants.

Now let him regulate the Management of the Greenhouſe, according to the Weather: the Plants require Air after their long Confinement from it; but they are made tender beyond their Nature, by that Cloſeneſs; therefore the utmoſt Care muſt be taken in admitting it to them.

The Middle of mild Days muſt always be watch'd for this Purpoſe, and the Glaſſes muſt be open'd a little: the very leaſt, when it can ſafely be done, will be ſerviceable; and by Degrees they will bear more.

Prepare for a Supply, by this Week ſowing. The Seeds of ſeveral of the Nightſhades which do not require the Stove, particularly of that Kind call'd *Amomum Plinii*, may be now ſown.

They ſhould be firſt clean'd, and harden'd on a Shelf, and then ſown in Pots of a light Compoſt. Theſe ſhould be ſet half up their Height in a moderate Hot-Bed, and water'd once in three Days, the Plants will riſe freely; and when they are two Inches high, they ſhould be planted into ſeparate ſmall Pots, and as they encreaſe in Height into larger.

Let the Temperature of the Air in the Stove be examined: and as the ſevere Cold decreaſes, let the Fires be leſs.

Stir up the Bark-Beds where they lie uneven, or have loſt their natural Warmth: and when this general Care is taken, let there be Attention paid ſeverally to the Plants. They will require cleaning and watering.

Let no Filth remain upon any Part; nor any dead Leaves or decaying Branches: and let the Earth be ſtir'd upon the Surface of the Pots, and ſome freſh Mould added, where required, from the proper Compoſts.

SECT. II.

The Buſineſs of the SEMINARY, *for this Week.*

THIS Week it will be proper to ſow ſeveral of the *American* Trees which bear the open Air in our Climate: The *Virginian* Walnuts, the *Acacias* from the ſame Quarter, the *Liquid Amber* Tree, and the *Planes.*

The particular Management of each of theſe we ſhall deliver under their proper Heads, treating of them when in their greateſt Perfection. The general Method now is the ſame; the Earth muſt be broke very fine, and the Seeds or Fruits plac'd with a careful Hand at regular Diſtances.

Afterwards, if the Mould grow very dry, it muſt be refreſh'd with Water. The Beds muſt be kept clear from Weeds; and when the young Trees are of a Bigneſs for tranſplanting, they muſt be remov'd with Caution.

Let the next Care be of thoſe Trees which are planted out from their Seed-Beds in Rows, and have ſtood ſome Time to root.

The great Article for encouraging theſe to ſhoot, is digging up the Earth between the Rows. No Time is ſo ſerviceable as this, becauſe they are preparing for the Spring Growth; and if this be done carefully, there will be a fine new-broken Soil thrown all about the Fibres for them to ſhoot freely; and obtain abundant Nouriſhment.

This done, let the careful Gardener look over thoſe Trees and Shrubs he is training for conſpicuous Parts of the Garden, and for other Purpoſes, where they will be in Sight.

Let him trim up thoſe he intends for Heads; and tye carefully the young Shoots of ſuch as he would have riſe ſtrait to Stakes. Nature is very obedient to the Hand at this Time; and whatever Form is given her, ſhe will retain: but if the Shoot be ſuffered to run crooked now, no Art will reduce it afterwards.

This is the beſt Seaſon for ſowing many of the biennial and perennial Plants; which ſhould ſtand in the Seminary till the Autumn before their flowering. The general Practice for theſe is to be the ſame: the Particulars we ſhall deliver under the ſeveral Species.

The Ground for the Reception of the Seeds muſt be well dug, and all Roots of perennial Weeds carefully picked out: none ſo carefully as Couch-graſs; for if that be ſuffered to remain in the Ground now, it will be impoſſible to pull it up afterwards, without tearing up the young Plants; or, to leave it in without ſtarving them.

When the Ground is clear'd from Roots, let the Surface be laid level; and the Seeds, according to their Kinds, ſcatter'd on it at various Diſtances, fewer being allow'd to the Quantity as the Plants are larger.

About a Quarter of an Inch of Mould muſt be ſifted over them; and after that a few Buſhes thrown on, to keep off Damage from Accidents. Theſe are to be taken off about the Time the Plants are to appear.

After this, they muſt be weeded and water'd as Occaſion require; and when they have ſome Strength they muſt be planted out into other Beds, there to remain till they are remov'd into the Border.

This Week the Gardener ſhould ſow Wall Flowers; *French Honeyſuckle*, *Columbines*, and *Roſe Campions*, purple *Amaranths*, and *Veronicas*.

SECT. III.

POMONA, or the FRUIT-GARDEN.

SOME Care muſt yet be taken of the Trees planted the preceding *October*. We have directed in what Manner their Heads ſhould be cut down; and the next Buſineſs is to prevent the Earth from drying about their Roots. Various Methods have been propos'd for this; but nothing is ſo well as a Defence of Turf.

Let a Quantity of this be cut from a Common of the uſual Thickneſs; and let it be carefully laid about the Root of the Tree, and to two Foot Diſtance all round it.

This will anſwer more than one Purpoſe. The Weight of the Turf will keep the Mould firm and ſteady to the Roots, as well as preſerve it in a State of Moiſture: and Waterings given upon this will gently make their Way thro', to the perfect Refreſhment of the Trees; the Sun's Power will be kept off from over drying the Mould; and every thing will promote Nature's Courſe in forming the Shoots.

Let the Gardener look round his young Fruit-Trees; and if there be any other, which though of ſomewhat longer ſtanding, want the ſame Aſſiſtance, let them have it.

If he find any over headed for the Root, which will be now diſcover'd plainly, they muſt be cut a little cloſer. Let the Surface be ſtir'd about them, and let them have the ſame Refreſhment of Turf laid with the Graſs Side downwards at their Roots, and Waterings at Intervals.

This Week let the Gardener plant Vines where they are wanted. This is an Article as little underſtood as any in his Profeſſion, and conſequently as ill practis'd: its Importance requires that we deliver it in a better Manner.

The firſt Conſideration is the Soil, which requires to be dry and poor. Vines that have grown in *England* from old Walls; and in the warmer Parts of *Europe*, out of the Cracks of Rocks, have borne better Grapes than any other.

In *France*, where their Soil is naturally poor enough for other Things, they throw in Rubbiſh for the Plantation of Vines; and, in general, the ſame Practice is follow'd ſucceſsfully in *England*: but there is one Thing greatly preferable, which I have ſeen done only in a few Places, and there kept a profound Secret: this is, the mixing among the Soil Chips of Stone.

Even *Italy* cannot do this; for their Stone is Marble; hard, and cold. *England* has a vaſt Reſource for the Improvement of the Vine; and it is fit all know it.

March.

Inſtead of Brick and Lime Rubiſh, let Refuſe of Stone be uſed: this, in many Counties lies at the Surface; and elſewhere the Chipings from a Maſon's Yard will do; only let the Kind be well choſen; the ſofteſt and rougheſt Stone is beſt, *Ryegate* Stone better than any other; it warms, as well as abates the Richneſs of the Ground; and imbibes the refreſhing Juices of the Air.

The Grapes ripen from ſuch a Soil in Seaſons when there are no others; and they are always better flavoured.

Examining how this happened in a neighbouring County, I learned from turning up the Soil, what the Gardener would not diſcloſe; and have ſince adviſed the Uſe of Stone ſucceſsfully.

The Chips ſhould be flat, or not too thick, ſuch as naturally fly off in the firſt working the Stone; and they ſhould afterwards be beat to Pieces with a Mallet. The moſt uſeful Size is the bigneſs of a Crown-piece.

Therefore when a Plantation is intended, trench the Ground; bury in it ſome of this Stone Rubiſh, and mix more among the upper Part: add a little Soot and Coal-Aſhes; and a good deal of freſh Mould from a hilly barren Paſture, that has not been plowed in Man's Memory.

This Soil will have Strength without Luxuriance; and it will keep in Order a great while.

Let the Border be dug and prepared in this Manner to the Breadth of five Feet, and all the Roots of perennial Weeds taken out.

This prepared, let the Vines be brought in. The old Method was to plant Layers: of later Time, Cuttings mentioned by ſome, but lightly, has been introduced: but the Uſe of Layers is after all the beſt.

Thoſe who object to Layers, ſay the Roots decay in the Removal. 'Tis certain they are ſlight, not firm, as in other Shrubs; but they only decay, becauſe ill managed: they may be preſerved alive, and they will help the Plant.

The Method is this. Mark upon the Border how far the woody Part will extend itſelf, when placed at about ſeven Inches from the Wall, this is to be the Rule for Planting; and the Method is not to be by a Hole, as in other Caſes, but by a double ſhelving Trench.

Let the Earth lie entire along this Mark, and on each Side dig away the Mould one Spade deep, in a ſlanting Manner outwards.

March.

This done, there will be a Trench, with a Ridge in the Middle of it. In this Manner let the Opening be made for the Reception of all the Sets; and then let them be taken up, if in the ſame Ground; or unpacked, if brought from a diſtant Place.

In either Caſe they muſt be planted with Speed, as well as Care, for the Air has great Effect upon their tender Roots; and nothing but Expedition in the Work can preſerve them when they are uncovered.

A great deal of Caution is required in the Packing of theſe; but it is no more than what we have directed on a former Occaſion, treating of common Fruit-Trees.

Let a Quantity of wet Moſs be in Readineſs when they are taken up; and let them be immediately laid upon a Bed of this, with more of it upon them.

In this Manner let them be brought to the Place, and when they are unpacked, let them be planted with careful Speed.

The Root conſiſts of a ſtrong Part; and Fibres iſſuing from it. This ſtrong Part will be alive; but in Spite of the beſt Care, many of the Fibres will be decayed.

Theſe would hurt the living Ones, if the Vines were planted in the Manner of other Trees, and it would be in vain to direct the Gardener to cut the dead Ones out, for there is no knowing which are dead, and which not: it is therefore we have directed the Manner of Ridge-planting.

The Trenches are now opened we will ſuppoſe, the Plants ready, and three People ſhould be employed in the Work, one to place the Plants, another to cover in the Mould, and a third to take Care of the Remainder: otherwiſe more will be loſt than ſaved.

When the firſt is taken out, the ſtrong Root muſt be cut off at each End to refreſh it for growing; it muſt then be laid along upon the Back of the Ridge; and the Fibres growing from it, muſt be ſpread on each Side down the two ſloping Parts; then the Mould muſt be carefully put in; and the Plant will thus grow much better than from a bare Cuting. Some of the Fibres will decay, but others will live, and the main Part will ſend out more.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THE Aſparagus will now be preparing to ſhoot, and the Beds muſt be rendered fit for giving its large Buds Room. This muſt be done with a three pronged Fork, flat, and with ſhort Tynes :It is beſt to have one purpoſely made for this Service, for the Benefit it does is very eſſential; and yet without due Care, it may do more harm, than it can good, by hurting the Crown of the Roots.

The proper Management of the Forking at this Time, looſens the Mould, deſtroys Weeds, and attracts all the Influences of the Air, Dews, and Showers; theſe ſwell the Buds, and the freſh broken Mould gives them free Paſſage: they grow more quick, and they are tenderer and better flavoured for it.

This done, let a rich, warm Piece be dug and levelled, and ſow a Crop of Endive. It will come in a very acceptable Seaſon.

We have in the preceding Numbers directed two Sowings of *Dutch* Parſley. The Plants of the firſt will be now come up, and it will be proper when they have a few Leaves, to thin them.

The Gardeners always (ſo far as I have ſeen) leave them too cloſe: let them ſtand eight Inches aſunder, and let the Ground be now and then well broke with a ſmall ſtrong Hoe between them.

The Crops of Radiſhes will appear now freſh and vigorous, from the Sowings we lately directed: they require the ſame Management with this Parſley to bring them to Perfection, but not ſo great a Diſtance, they ſhould be thin'd by Hand, pulling up the poor Plants; and leaving the reſt at four Inches Diſtance.

This pulling up a Part, will leave the Ground light and looſe about the reſt for the preſent, and will that Way be of great Service; a few Days after they muſt be hoed in the Manner we juſt now directed for the Parſley.

The Trouble is not ſo much, and they will thus come early; and be tender and well taſted. A dry Morning, after a light Froſt, is the beſt Time for this, the Mould being then crumbly and free, it will fall looſe about the Heads of the Plants, and being broke at the Surface, the Dews will be received, and it will keep moiſt and looſe.

The Gardener will remember what we have directed him, reſpecting Hot-Beds for Cucumbers and Melons: he knows how he is to manage the Plants of his firſt Sowing, and now it will be proper to prepare for a ſecond Crop.

The Hot-beds muſt be made in the ſame Manner, and the whole Management of the young Plants muſt be the ſame.

Some *French* Beans ſhould be planted this Week, but it muſt be done with great Care and Circumſpection.

If the Ground be wet, the Seed will rot inſtead of ſhooting; and if the Place be expoſed, cold Winds will deſtroy the Plants as ſoon as they appear.

From this they muſt be defended, and alſo from Slugs, for their firſt Leaves are very juicy, and theſe Devourers are fond of them.

This regards their Management, when up; and we ſhall ſpeak of it hereafter. The preſent Care muſt be in the Choice of a Spot; this ſhould be in a ſheltered and warm Place, and where the Ground is higher than the Generality, that Wet may not ſettle upon it.

If the Weather be very rainy, the Sowing ſhou'd be defer'd; but ſuppoſing this good, and the Piece thus choſen, there will be a Proſpect of a very valuable Crop.

The *Batterſea* Bean, or leſſer *French* Bean is the beſt Kind for ſowing now. Let Drills be opened along the Bed at ſixteen Inches Diſtance, and to the Depth of one Inch, or thereabout; and into theſe drop the Beans at about three Inches aſunder, draw the Mould over them, and in nine Days, with good Weather, the Plants will appear. As they riſe in Height, the Mould muſt be drawn up to them with a Hoe. They muſt be carefully watched, to defend them from Slugs; and the Ground between them muſt be hoed once in ten Days.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XXIX.

For the latter End of *MARCH.*

SECTION I.

FLORA, or *the* PLEASURE-GARDEN.

CHAP. I.

Flowers and curious Plants now in their Perfection.

1. VIOLET SELFHEAL.

March.

Pl. 29. Fig. 1.

THIS Plant, tho' of conſummate Elegance, has ſo much the Aſpect of a common Weed by our Pathways, that till the Flowers diſcloſe themſelves, it ſeems no other than that wild Plant whoſe Seeds have by Chance been blown into a Garden. It is indeed no more than a Variety of the Weed it ſo much reſembles; but no Accident of Growth renders it ſuch in *Engliſh* Paſtures.

We receive the Seeds from the warmer Parts of *Europe*, where it burſts in all this Glow of Beauty, from the Cracks of Rocks on the Sides of Mountains.

In our Gardens theſe Seeds produce the ſame noble Variety; but if the Culture be neglected, the ſame Root will, after a few Years, produce the common *Selfheal*, ſuch as we tread upon in every Foot-Path.

This is the Caſe we mention'd in Regard to the *Proliferous Daiſy*; and thus it is with all Varieties: this juſtifies LINNÆUS, who, tho' the Plant ſtands diſtinguiſh'd as a Species in C. BAUHINE, under the Name *Prunella cærulea magno flore*; and in moſt other Authors with like Appellations, has reduc'd it to a Variety only, and refer'd it to the common *Selfheal*. This he calls *Prunella foliis ovato oblongis petiolatis: Prunella*, with oblong oval Leaves on Footſtalks.

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The Root is oblong, irregular, brown, and hung about with many ſlender and very long whitiſh Fibres.

The firſt Leaves are numerous, and they have long ſlender Footſtalks. They are oblong and indented; conſiderably broad at the Baſe, and ſmaller to the Point.

The Stalk is ten Inches high, purpliſh at the Bottom, toward the Top of a pale green, and covered with a light velvety Down.

On each Side of the Stalk there runs a ſlight Furrow; and at Diſtances there are about two Knots; the Stalk at theſe alſo is ting'd with purpliſh; and there riſe from each of the Knots two Leaves: theſe have ſlender Footſtalks, ſhorter than thoſe from the Root, but they reſemble them in Form. They are broadeſt at the Baſe, ſmaller to the Point, and irregularly dented along the Edges.

Their Colour is a deep ſtrong green; and they are ſmooth on the upper Side, and hairy underneath.

The Flowers are large and very beautiful: they terminate the Stalk in a thick ſhort Spike, and they are large and gaping. Their Colour a deep and elegant violet blue. They charm the Eye, but they have no Smell.

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Their Structure demands the Student's Attention. Each is plac'd in a ſhort Cup, divided into two Lips. The upper Lip is flat, and nip'd lightly in three Parts at the Top. The lower is narrower, and lightly ſplit in two. One Petal forms the Body of the Flower, which is alſo bilabiate and wide open. The tubular Part at the Baſe is ſhort: the upper Lip is large, broad, and ſtands drooping: the under Lip is ſmaller, and turn'd down; it is cut into three Segments, of which the middle one, which is broadeſt, is dented in the Midſt, and ſerrated.

Within the Body of the Flower are four Filaments, two of theſe are ſhorter than the others: the longer Pair are in a Manner ſplit at the Top; and this Part runs in one Branch above the Button, which is inſerted over the other. With theſe riſes a ſingle Style from a four-parted Rudiment, which ripening afterwards, forms four diſtinct Seeds, lodg'd in the Cup, without a Capſule.

The Botanical Student hence learns the Claſs and Section of the Plant. The *Didynamia*, in the Linnæan Method, comprehend all thoſe Plants in whoſe Flower two Filaments are regularly longer than the others; and the Subdiviſion is into *Gymnoſpermia*, thoſe which have the Seeds naked in the Cup; and *Angioſpermia*, ſuch as have them in a Capſule. This Plant is one of the *Gymnoſpermia*.

Culture of the Violet Selfheal.

We have told in what Places this elegant Plant thrives wild, and this the careful Gardener ſhould make the Rule of his Conduct.

The Plant is to be rais'd from Seeds, and they ſhould be obtain'd from *Spain*, or ſome other warm *European* Climate.

Let the Gardener fix upon a Piece of a Border open to the South Sun, and defended by a Wall.

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Let him mix ſome Sand, the coarſeſt he can get, with freſh Paſture-Earth and old Cow-dung. A Buſhel of the Earth, and a Peck of each of the others, will be a good Proportion.

Let him dig away the Mould cloſe under the Wall, and with the Point of a Trowel pick out ſome of the Mortar from between the Bricks, filling up the Place with this Compoſt: then adding more, till it be rais'd to the Level of the Bed.

Upon this Ground, and principally cloſe to the Wall, let him in the Beginning of *Auguſt* ſcatter the Seeds pretty thick. Let him ſift over them a Straw's Breadth of common Mould; this will keep the Seeds moiſt till they ſhoot, and will give the Part the Colour of the reſt.

In *September* the young Plants will appear, and they muſt be weeded and left to Nature. The Winter will kill ſome; and in Spring the weaker of thoſe which remain muſt be pull'd up, the ſtrongeſt being left at a Foot Diſtance.

Some will have rooted by this Time into the Wall, and they will be the moſt healthy.

Theſe will naturally flower the firſt Spring; and the next Year all.

After this no more Care need be taken of the Plant.

Thoſe Roots which have run into the Wall will live many Years; and the ſcatter'd Seeds will raiſe others in Places where Nature will preſerve them.

If they are not permitted to Seed, the Stalks being cut off as the Flowers fade, more will be produc'd in their Place, throughout a great Part of the Year; and their thick Tufts hanging about Bottoms of the Walls, where nothing elſe will grow; and where they will look too rich for Weeds, tho' unlike all other Flowers, will give a very pleaſing Variety.

2. BLUE PYRENÆAN ASTER.

Pl. 29. Fig. 2.

This is a Plant familiar in the *French* Gardens, and wild upon the bleak Sides of the *Pyrenæan* Mountains; valuable for its erect and firm Aſpect, the Number and the Luſtre of its Flowers, and for their early Appearance. We are accuſtomed to the *Aſters* in great Variety in Autumn; but the earlier Kinds have always an Air of Singularity.

Robinus brought this Species from its native Mountains into the Gardens of his Country: and Dodart nam'd it there *Aſter Pyrenæus præcox flore cæruleo majore:* Early *Pyrenæan Aſter*, with large blue Flowers.

Morison has deſcrib'd it alſo under the Name *Aſter præcox flore cæruleo majori.* The earlier Writers did not know it.

The Root is long, whitiſh, ſpreading, and furniſhed with a Multitude of Fibres.

The Stalk is firm, upright, robuſt, and two Foot high: ſingle all the Way up; well covered with Leaves; and at the Summit ſpread out into a Number of Branches, all crowned with numerous Flowers.

The whole Plant is covered with a thick firm hairy Subſtance. The Stalk is ridg'd, and of a browniſh green.

The Leaves are alſo of a brown green, and they are plac'd alternately. They have no Footſtalk. They are oblong and dented at the Edges, very hairy, and rough to the Touch.

The Flowers terminate all the Branchings from the Top of the Stalk, and there riſe many alſo on Side Shoots from the Boſoms of the Leaves, ſo that the whole Cluſter is of a round large Expanſe, and every Flower of great Beauty. They are of the compoſite radiated Kind, and the Rays are of a fine bright blue, the Diſk gold yellow.

The Rays are about thirty in Number; their

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under Part or Back is ſomewhat paler than the upper, and they ſpread full out, and turn themſelves irregularly, ſo as to ſhew the Back in many Places.

We have before told our Student, that in theſe compoſite Kinds the ſmall Floſcules which compoſe the Diſk, are ſo many perfect Flowers, as the Rays are ſo many imperfect ones, all collected into a Head, ſurrounded by a Cup, and forming one general Flower.

In this the Cup is form'd of many Series of little leafy Scales, plac'd over one another; and the Points of the anterior ones are prominent. The Floſcules are numerous in the Diſk, hollow'd, wideſt at the Mouth, and there divided into five Segments.

The female Flowers are long, and are irregularly and uncertainly nick'd in three Places at the Top. Theſe have at their Baſe the Rudiment of the Seed, covered with Hairs, and from it a ſingle Style, with a ſplit Top. They have no Filaments.

In each of the others, which compoſe the Diſk, there are five Filaments, with convergent Buttons. The Duſt from theſe Buttons is deſtin'd to impregnate the Rudiments of the Seeds in the Baſe of the Flowers at the Rim, where there are no male Organs or Filaments; but, beſide theſe, there are alſo ſome Rudiments of Seeds under the tubular Floſcules in the Diſk, which alſo come to Maturity, tho' not certainly or univerſally.

We have before acquainted the Student with the Subdiviſions of the *Syngeneſious* Claſs: that this Plant belongs to that Tribe he will ſee by the Coaleſcence of the Buttons in the tubular Floſcules; and as there are Seeds under thoſe Floſcules, as well as in the female ones on the Rim, he will perceive it is one of the *Polygamia Superflua*; the various Impregnation not being neceſſary.

March.

Culture of this ASTER.

The Plant requires a deep rich Mould; and tho' it will live in almoſt any Situation, yet the full Beauty of its Flowers, and their early Appearance, depend upon an open Sun. No Hot-Bed is requir'd to raiſe, or Greenhouſe to preſerve it: the worſt of our Winters will not hurt it in open Ground.

Let the Gardener ſelect a warm and well defended Spot; and dig in among the Mould ſome freſh Paſture-Earth.

Seeds of the Plant are eaſily procur'd; and let him ſow them in the Beginning of *September*. They will ſhoot freely, and the young Plants will ſtand the Winter without Care.

In Spring let them be clear'd from Weeds, and the weakeſt pull'd up: let the others be left at ten Inches Diſtance. Now and then let them be water'd, and ſome of the ſtrongeſt of them will flower this Seaſon.

The Stalks muſt be cut down, that the young Roots may not exhauſt themſelves in ripening Seeds; and the next Seaſon all will flower in great Beauty.

They may be propagated, after this, by parting the Roots of old Plants in Autumn, but Seedlings are always better.

3. EARLY SHRUB ANONIS.

Pl. 29. Fig. 3. A very elegant Plant, regular in Growth, rais'd with little Trouble; and valuable for the early Appearance of the Flowers, and for their long Continuance.

The old Writers did not know it: but of late Time moſt have mentioned it. MORISON calls it *Anonis purpurea verna fruteſcens.* — DODART, *Anonis purpurea fruteſcens non ſpinoſa* — and LINNÆUS, *Anonis floribus paniculatis, pedunculis ſubtrifloris, ſtipulis vaginalibus, foliis ternatis:* Ternate-leav'd *Anonis*, with cluſter'd Flowers plac'd uſually in Three's, and with Films to the Baſe of the Leaves, ſurrounding their Stalks.

The Root is browniſh, tender, and furniſhed with many long and ſtraggling Fibres.

The Stem is round, firm, and two Foot and a half high; branched from the Bottom to the Top, and forming itſelf naturally into a handſome Shrub.

The Bottom is often purpliſh: the Branches are of a greyiſh green; and they are ſlender, tough, and pliable.

The Leaves are plac'd at Diſtances, in a wild and irregular but not unpleaſing Manner. They riſe three together; but often there will be one or two Tufts of young ones in the Boſom of the older, ſo that the whole Cluſter amounts to ſix or nine. They are long, narrow, obtuſe, and elegantly ſerrated at the Edges.

Their Colour is a fine freſh green, and their Rib is often purpliſh: uſually there is no Footſtalk; but on the lower Part of the Plant in ſome Places there is a ſhort one, ſupporting the three Leaves, with a Film at the Baſe.

The Flowers are extremely elegant; they are large, and are diſpos'd in conſiderable Tufts, terminating all the Branches. Uſually three grow upon one Footſtalk, and there will be five or ſix ſuch at the Top of each Branch.

Their Colour is a lively Crimſon on the Outſide; within they ſeem painted by a curious Hand, with Lines and Streaks of White; and the very Cup, from whoſe Hollow they riſe, is rediſh.

The Student, viewing all more cloſely, will find the Conſtruction very elegant and ſingular.

The Cup is hollow, form'd of one Piece, and divided at the Edge into five pointed Segments, which turn upwards.

The Flower is regularly papilionaceous, and is compos'd of four unequal Petals. The Vexillum is large, of an oval heart-like Form, and depreſs'd at the Sides: the Alæ are oval, and half as long as this: the Carina is pointed, and longer than the Alæ.

In the Body of the Flower are lodg'd ten Filaments; nine of them coaleſce for a great Part of their Length, and there is a Tenth naturally looſe; but ſometimes this will be united alſo with them: the Ends are free, and are turn'd up, and they have ſmall Buttons.

The Style is ſingle, and terminated by a roundiſh ſmall Head.

The Seed-veſſel is a ſhort hairy Pod, in which are a few Kidney-ſhap'd Seeds.

The Coaleſcence of nine among theſe Filaments, and the one remaining ſingle, ſhews the Plant to be one of the *Diadelphia Decandria*; the Claſs and Section of moſt papilionaceous Plants.

Culture of this ANONIS.

It is a Native of the Southern Parts of *France*, and of ſome other *European* Provinces. With us it requires no peculiar Care or Defence: the open Ground will preſerve it; and being once rooted, it will endure many Years, and be every Seaſon ſtronger, and better furniſh'd with Bloom.

It ſhould be rais'd from Seeds, and the Soil ſhould be ſuch as Nature ſhews it beſt loves.

In *France* it flouriſhes beſt wild, in high and barren Grounds, where there is Depth of Mould. Its long Fibres ſpread far, and pierce deep, ſo that they find Reſources of Nouriſhment, where the Eye ſees only Barrenneſs.

Let the Gardener fix upon a dry warm Spot in his Ground, and take out the Mould Three-ſpade deep. Let him throw into the Place ſome dry Paſture Earth, mix'd with a little Soot, and a good Quantity of old Cow-dung.

Let him cover this an Inch with the common Mould of the Border; and upon that Surface ſcatter ſome of the Seeds; in the third Week in *September*.

Let theſe be covered with a Straw's Breadth of fine Mould ſifted over them; and let him throw a few Buſhes over the Ground, to keep off Accidents.

When the young Plants appear, free them from Weeds, and give them in a Morning, once in four Days, a gentle Watering.

In Spring thin them to a Foot Diſtance, taking up the weakeſt Plants; and after this weed them carefully; break the Earth boldly between them with a Trowel, for they root deep; and every other Day give them a gentle Watering. Take off the lower Side Shoots, to train them with a little Stem; and they will riſe to their due Height the firſt Seaſon, and flower vigorouſly.

Let none ſtand this Year for Seed. Take off the Heads as the Flowers fade, and the Plants will by this Means continue flowering three or four Months. Gardeners think this exhauſts the Roots, but they err: 'tis ripening of Seeds that weakens this Kind of Plants, not the moſt profuſe flowering.

The Plant thus eſtabliſhed in the Ground will require no more Care: but it will every Year be more beautiful.

4. SPIKED DRACOCEPHALUM.

Pl. 29. Fig. 4. This is a very ſingular and very beautiful Plant, Native of *America*, and thence unknown to the earlier Writers; but by the later, in general, celebrated highly, tho' under various Names. BARRELIERE has call'd it a *Lyſimachia*; DODART a *Digitalis*. BOCCONE, who ſaw its Reſemblance to the *Digitalis*, but ſaw with it an eſſential Difference alſo, nam'd it *Pſeudo-Digitalis*.

LINNÆUS, baniſhing with Reaſon all theſe baſtard Names, adopts for the Genus the Name given it by BREYNIUS and MORISON, *Dracocephalum*, Dragon's-head; and adds, as the Diſtinction of this Species, *floribus ſpicatis, foliis lanceolatis ſerratis:* Spiked *Dracocephalum*, with lanceolated and ſerrated Leaves.

The Student will remember that we have deſcrib'd already one of theſe *Dracocephala*, the Plant call'd *Cedronella*; and by the vulgar Gardener, *Balm of Gilead*. The tufted Flowers of that Plant, ſhew the Occaſion of receiving the ſpiked Form of theſe into the diſtinctive Name.

The Root is compos'd of numerous long thick white Fibres, connected to a little Head.

The Stalk is upright, undivided, ſlender, but firm, and more than a Yard high. Its Colour toward the Ground is Crimſon, upward a pale Green, but ſtain'd with ſome Remains of the Ground Tinct; and it is ſtriated and ridged.

The Leaves riſe at the Joints, two from each; theſe Joints ſtand diſtinct, and give the Plant a fine free Air.

The Leaves are of the Length of a Man's Finger, and not more than equal to it in Breadth. They are of a very beautiful green, with the Middle Rib often red; and they are deeply and elegantly ſerrated along the Edge, and terminate in a long ſlender Point.

The Flowers are very numerous, they terminate the Stalk in a long Series; with ſeveral Side Shoots from the lower Part of this main Spike, all covered with Flowers, large enough to be ſingly conſpicuous and beautiful. They are long, hollow,

Pl:29

1
Violet Selfheal
2
Blue
Pyrenæan
Aster
3
Early Shrub Anonis
4
Spiked
Dracocephalum
5
Tutsan leav'd Apocynum
6
Indian Heliotrope

and divided in a ſingular Manner into two Parts at the Extremity.

The Bottom of the tubular Part, where it riſes from the Cup, is of a blueiſh Red, the Body redder; and within the Mouth are Spots of the higheſt Crimſon, as if laid on with a Pencil.

The Cup in which each Flower is placed, is very ſhort, form'd of a ſingle Piece, and cut at the Rim into five Segments.

The Body of the Flower is form'd of a ſingle Petal; the tubular Part is long, and the Mouth opens very wide.

The upper Lip is broad, arched, and undivided: the lower is cut into three Parts; and of theſe the two Side Segments are turn'd up, and the lower one is dependent, round, and prominent behind; and has a Nip in the Extremity.

This ſingular Structure of the Opening in the Flower, might very well refer the Plant to a new Genus, with thoſe who examined Things no farther; but every thing confirms the other Diſtribution.

The Filaments run up under the upper Lip, and they are four in Number; two are ſomewhat longer than the others, and they have Heart-ſhap'd Buttons: the Style ſingle, but it riſes from a four-parted Fruit, and is terminated by a fine Top or Stigma, ſplit into two deep Parts, which turn backward.

Four naked Seeds follow, lodg'd in the Bottom of the Cup; and from the View of theſe, even in their Rudiment, and from the Inequality of the Filaments, our Student will know the Plant is one of the *Didynamia Gymnoſpermia.* The Claſs comprehending thoſe Plants which have two Filaments longer than the others; and this Subdiviſion, *Gymnoſpermia*, thoſe with naked Seeds.

Culture of this DRACOCEPHALUM.

The Plant is a Native of *North America*, where it thrives in a deep rich Soil, not too remote from Rivers: 'tis found in other Situations, but it flouriſhes only in theſe.

With us it will ſtand ſome Seaſons in the open Ground: but that is hazardous: it deſerves a little Care; and to ſecure it and preſerve all its Beauty there does not require much.

Let it be raiſed from Seeds; and preſerved in Pots.

Let a Compoſt be made like that Soil in which it thrives moſt, wild: mix two Buſhels of rich black Meadow-Earth, one Buſhel of Pond-Mud, a Peck of Cow-dung, and half a Peck of Sand.

Throw this up in a Heap, and let it have the Influence of the Weather ſix or eight Months, with frequent Turnings: the Quantity will be more than needed for this Plant; and it will ſerve for others from like Soils.

Seeds ſhould be obtain'd from *America*; and early in Spring ſown in a Pot of this Compoſt, ſet up to the Rim in a moderate Bark-Bed; or in Hot-Bed of Dung that has loſt its firſt Heat: they ſhould be covered a Quarter of an Inch with the ſame Mould; and when the Plants appear they muſt have gentle Waterings, and by Degrees a little Air.

When they are two Inches high, let as many as are intended to be rais'd be planted out into ſeparate Pots: watering them carefully, and ſhading them in the ſame Hot-Bed with Mats, till they are well rooted in the new Mould.

Then they muſt be inur'd to the Air; and early in Summer ſet out in a warm and well ſhelter'd Place.

The Earth on the Surface of the Pots muſt be frequently ſtir'd; a little freſh Compoſt put on, twice in the Summer; and they muſt be water'd once in two or three Days.

Some of them will flower the ſame Year; and of the others, ſome, with due Care in Winter, will throw out their Stalks for flowering early in the Spring: a ſingular Time for ſuch a Plant; and theſe will gain new Value from that Novelty.

In the latter End of *September* let the Stalks of thoſe which have flower'd be cut down; and let a ſmall Quantity of freſh Compoſt be ſpread over the Surface of the old, in all the Pots.

Let them be ſet under a Frame, ſuch as is us'd to cover Hot-Beds; and in mild Weather let ſome Air be admitted.

In the Beginning of *March* let the old Earth be remov'd as low as it can be taken out without injuring the Roots, and the Place ſupply'd with freſh Compoſt.

After this, as the Weather grows warmer, let them be brought to bear the free Air; and in *April* ſet out for flowering, in a warm ſhelter'd Place. They muſt be water'd frequently to promote the free ſhooting of the Stalk, and to fill the Buds of their numerous Flowers.

After this, once a Year the Roots ſhould be taken up, their extreme Fibres trim'd, and, when they are large enough, parted for encreaſing the Plants. They will grow ſtronger every Year.

5. TUTSAN-LEAVED APOCYNUM.

Pl. 29. Fig. 5. A very ſingular and beautiful Plant; eaſily rais'd in our Gardens, and worthy to be made univerſal in them; not only for the Flower, but for the Leaves and general Manner of Growth. It is of *American* Origin, therefore unknown to the earlier Writers; but familiar to all of late Time.

The Characters of the *Apocynum* are mark'd too ſtrong upon it, for Miſtakes as to the Genus whereto it belongs; and the great Reſemblance of the Leaves to thoſe of the large *St. John's Wort*, call'd *Tutſan*, has given its Name as a Species among moſt of them.

BOCCONE, MORISON, and the reſt, call it *Apocynum Canadenſe foliis Androſæmi majoris.*

LINNÆUS, in his firſt Works, calls it *Apocynum foliis ovatis*; but the numerous Species added to that Genus ſince, have made a longer Name now neceſſary for its Diſtinction: he calls it, in his later Writings, *Apocynum caule erectiuſculo herbaceo foliis ovatis utrinque glabris cymis terminalibus:* Upright hairy *Apocynum*, with oval Leaves, ſmooth on both Sides, and Flowers in Tufts at the Tops of the Branches.

The Plant is a Yard high; of regular Growth, and very handſome Aſpect.

The Root is very long, irregularly divided, browniſh, and hung at Diſtances with Tufts of ſlender white Fibres.

The Stalks riſe ſingle from each Head of the Root, and they are upright, firm, ſmooth, and of a browniſh Colour; red toward the Baſe, and of a green and brown variouſly mix'd upwards.

The Branches are not numerous, but they grow with great Regularity from the Boſoms of the upper Leaves. Theſe, as alſo the tender Part toward the Top of the principal Stalk, are uſually ſpotted and ſtained with irregular Dots of brown.

The Leaves are placed in Pairs at diſtant Joints, and they are ſupported by ſhort rediſh Footſtalks. They are broad, ſhort, of a Figure nearly oval, and of a firm Subſtance.

Their Colour is a deep ſtrong green, and they have conſpicuous Veins, of which the middle one is uſually ſtain'd with purple, and the others are white. The Footſtalks of theſe Leaves are a little hollow'd; and the under Part of the whole Leaf is of a much paler green than the upper, and downy.

The Flowers are ſmall, but they are ſingular in Form and Colouring, and their Number makes ſome Amends for their Want of Bigneſs. They crown the Top of the main Stalk, and the Extremities of all the Branches, in a kind of circular Tufts, not cloſe rang'd and compact, but regular enough, and of no ſhort Continuance.

The Ground Colour of the Flower is white; but it is ſtain'd in various Proportions with a lively Crimſon: ſometimes this Colour is diſpos'd in Streaks and Rays; in ſome Flowers it occupies the whole Baſe, and ſpreads itſelf in a lighter Tinct over the reſt of the Body; and in ſome there is little of it.

The Form of the Flower has alſo its Singularity, though, in general, it agrees with the *Apocynum* Kinds. It is placed in a minute Cup, form'd of one Piece, and divided by five Dents at the Edge.

One Petal makes the Body of the Flower, and this is hollow, rounded, of a Bell-like Shape, and at the Edge cut into five ſmall Segments, which curl backwards.

In its Baſe the Student will perceive five ſcaly Subſtances, of an oval Form, with five ſmall Briſtles ſurrounding the ſmall Rudiment of the Fruit. The Organs of Impregnation riſe diſtinct from theſe; and he has ſeen before the Petal and the Cup: theſe are the univerſal Parts of Flowers. This ſingular Appendage in the Centre he will therefore know is a Nectarium: ſo LINNÆUS, the firſt who eſtabliſh'd the Doctrine of theſe Glands, has nam'd it.

The Filaments are five, but they are ſcarce diſtinguiſhable, from their Minuteneſs: their Buttons make Amends, and are ſufficiently conſpicuous: they are oblong, ſharp, ſplit at the Bottom, and at the Points convergent.

The Styles are as inconſiderable as the Filaments; but their Stigmata or Tops mark them as ſtrongly as the Buttons do the Filaments: theſe are two, they crown two oval Rudiments, and are themſelves large and rounded.

Where the Styles are wanting, or where they are not diſtinct, we have obſerved theſe Stigmata mark the female Organs, and eſtabliſh that Part of the eſſential Character.

They are conſpicuouſly two in this Flower, therefore the Plant is of the *Digynia*; and its five Buttons, counted where the Filaments are leſs obvious, ſhew it one of the fifth LINNÆAN Claſs, *Pentandria*.

The Seed-veſſels are two after every Flower, and they are long like Pods, with many ſmall Seeds, crown'd with a long ſilky Down.

Culture of this APOCYNUM.

It is a Native of *North America*, where it thrives beſt in a deep, rich and light Mould; in Thickets, at the Sides of Foreſts, or near lofty Trees. It does not bear abſolute Shade, nor will grow freely where there is open Sun.

We learn by this to compoſe an artificial Soil for it, and adapt a proper Situation.

Let the Gardener mix one Buſhel of Meadow-Earth, rich and black; two Buſhels of Pond-Mud, three Pecks of Wood-Pile Earth, and one of Hogs Dung. Theſe ſhould be thrown up in a Heap, and turn'd at Times.

When this is ready, and Seeds are procur'd from *America*, let a Pot be fill'd with it, and

ſome

March. ſome of them ſcattered over the Surface. Cover them with a Straw's Breadth of the ſame Compoſt ſifted upon them; and this being done, early in *March* let the ſhooting of the Seeds be promoted, by ſetting the Pot up to the Rim in a Bark-Bed.

The Plants, when they have a little Height, ſhould be remov'd into ſeparate ſmall Pots, and ſhaded in the Hot-Bed, till they have taken Root.

After this they muſt be hardened to the Air, for they are to have no more of this Nurſing: the Seedlings require it, but grown Plants of this *Apocynum* are hardy.

In *May*, let a Border be choſen that is well ſhelter'd, warm, and ſomewhat ſhaded, at leaſt, that has not any Time the full Blaze of a Noon-Day Sun.

Let the Earth be dug out of this for a Space ſufficient for the Number of Plants intended to be preſerved, and throw in the Compoſt ten Inches deep. March.

Take the Plants carefully out of the Pots, with the whole Ball of Earth, and trim the out-ſide Fibres. Open Holes at a Foot and half Diſtance, and ſet in the whole Ball of Earth with its Plant perfectly upright.

Draw ſome Mould over the Surface of the Ball of Earth from the Pot, and ſettle it well about the Stem; and then give every Evening a gentle Watering, and the Plantation will ſucceed. They will grow more and more vigorous every Day.

Their own Earth will afford Nouriſhment enough to the Roots for the firſt Days; and after this the Fibres on the Surface will ſhoot; the Ball will crack and break with the frequent Waterings; and new Shoots will be form'd every Way.

Some of the Plants will flower the firſt Seaſon; and all the ſucceeding Summer.

6. INDIAN HELIOTROPE.

Pl. 29. Fig. 6. A very ſingular Plant; erect, robuſt, and rugged: worthy a Place in all Collections of Exotics, and requiring little Care.

Thoſe who have written on the *American* Plants, or of ſuch as cover the Fields of the *Eaſt*, have nam'd it, and no one of them without particular Praiſe.

Plukenet has call'd it *Heliotropium Americanum cæruleum.* — Dodart, *Heliotropium Americanum cæruleum foliis hormini:* and our great and moſt reſpected Sloane has deſcrib'd a Variety of it with narrower Leaves, frequent in *Jamaica*, by the Name *Heliotropium Americanum cæruleum foliis hormini anguſtioribus.* This Herman alſo conſider'd as a diſtinct Species: but Linnæus, with great Juſtice, has determin'd it no more than a Variety from Accidents of Growth.

This Author calls the Species *Heliotropium foliis cordato ovatis, acutis, ſcabriuſculis ſpicis ſolitariis fructibus bifidis: Heliotrope*, with rough, oval, heart-ſhap'd and pointed Leaves, and with ſingle Spikes and divided Fruit. The Gardeners Language calls it *Indian Turnſole.*

The Root is long, white, woody, ſlender, acrid in Taſte, and hung about with many Fibres.

The Stalk is four Foot high, robuſt, ridg'd, hairy, with thick-ſet Briſtles, whitiſh and greeniſh toward the Bottom; but from the Middle upwards ſtain'd with a florid Crimſon.

The Leaves are large, and in the higheſt Degree ſingular. They ſtand irregularly; and they have long Footſtalks, hollow'd and wing'd.

The Leaf itſelf is broadeſt at the Baſe, where it has a heart-like Indenting for the Stalk, thence it grows ſmaller to the Extremity, where it is pointed; the Edge is regularly wav'd and ſinuated, and the whole Surface of the Leaf is curdled up, and rough.

Naturally the Ribs and Edges of thoſe Leaves which hang upon the upper Part of the Stalk are purple; the reſt of a duſky green; but often, where the Plant is in full Sun, the purple ſpreads itſelf over the whole Leaf and its Footſtalk; and the Plant, even before it flowers, has a rich glowing Aſpect.

The Flowers are not large, but from their Manner of Growth very conſpicuous. They are diſpos'd in double Series along one Side of long ſlender Footſtalks, which at their Ends curl in a ſpiral Line, and have been underſtood to repreſent a Scorpion's Tail.

They are, when the Plant is properly encourag'd, of a very delicate purple, much upon the blue.

As the Soil and Culture ſuit the Plant more or leſs, theſe will be more upon the red Caſt, or more upon the blue; but when they have this true blueiſh purple, they are in their greateſt Perfection.

Each Flower is ſupported on a very ſhort Footſtalk upon the common Branch, but they ſtand ſo thick this is ſcarce ſeen.

The Cup is form'd of a ſingle Piece, divided at the Edge into five Segments; and the Body of the Flower is made of a ſingle Petal. This is tubular at the Baſe, and divided at the Rim into five irregular, unequal and obtuſe Segments.

The Opening to the Tube is clos'd by five ſmall Scales, which converge at the Point, and form a kind of Star.

In this Part of the Flower are plac'd the Filaments: they are five, very minute, and top'd with top'd with ſmall Buttons. The Style is ſingle; it riſes in the Midſt from a four-parted Rudiment; and when the Flower is fallen, four Seeds ripen in the Cup naked.

We have told our Student that the Claſſes of LINNÆUS's have their Name from the Number of the Filaments. This Plant is one of the fifth, the *Pentandria*; and its ſingle Style ſhews it alſo of the *Monogynia*.

Culture of this TURNSOLE.

It is an Annual, and native of the warmer Parts of *America*, as alſo of *Africa* and *Aſia:* in all theſe Places it lives in the ſame kind of Soil, light, dry and ſandy, yet not without ſome Richneſs.

In *America* it covers the Banks on riſing Grounds; and having uſually a Soil too fertile for its true Nature, it is luxuriant in Growth, but wants the glowing Colour.

In the *Eaſt-Indies* the Leaves are veined and ſpotted with an elegant Crimſon; but in the abſolute Sands of *Africa*, it ſhews its brighteſt Luſtre.

It will not there riſe to the Height it reaches in thoſe other Countries, but 'tis throughout often of a bloody purple: ſo ſingular, that our rudeſt Voyagers have gaz'd upon it, and declar'd their Wonder.

In *Europe* we ſee little of its Elegance; and the prime Gardener MILLER ſpeaks his beſt Knowledge, when he calls it a Plant of no great Beauty.

The *African* Colour, or even the *Eaſt-Indian* Spots, are to be obtain'd only by a peculiar Culture, a Management with which he was not acquainted, and theſe are its great Recommendation.

Let Seeds be obtain'd, if that can be done, from *Africa*; if not, thoſe of our Colonies, or of the *Eaſt-Indies* muſt be us'd; but as they often come over bad, many more ſhould be ſown than on other Occaſions.

The Spring is the Seaſon for this; and as the Plant is an Annual, the earlier that is done the better.

Let a Compoſt be firſt made for it thus:

Waſh ſome coarſe Pit-Sand, till the Water runs from it without Colour. Set it over the Fire in an Iron Pot, and let it be well heated. It will acquire a rediſh Hue, and this ſhews it is done enough.

Mix a Buſhel of this with five Pecks of Marle, and add one Peck of black Meadow-Earth. Sprinkle on a little Soot, and a Handful of Salt, and throw the Heap up to the Weather.

In *February* fill a Garden-Pot with this, and ſcatter upon it a little very rich Mould, about a Quarter of an Inch thick: upon this ſtrew the Seeds. Sift over them a little of the Compoſt; ſprinkle the Surface with Water, and ſet the Pot up to the Rim in a Bark-Bed.

When the young Plants come up allow them a little Water; and as ſoon as they have Strength for removing, tranſplant them each into a ſeparate Pot of the Compoſt. Let theſe be Pots of the middling Size, for the Plants are not to be remov'd any more.

Settle the Earth to their Roots by a gentle Watering, with Water that has ſtood in the Bark-Bed or Stove; and then ſet in the Pots again up to the Rim. Shade the Bed with Mats till they are well rooted, and then by Degrees inure them to the Air.

In the Beginning of *June* they may be finally ſet out: and for this Purpoſe a Place ſhould be choſen open to the full Sun.

Hitherto the Plants will be green, or but little ting'd; but from the Time they are expos'd to the full Sun, they will begin to change their Colour: the tenderer Leaves will be blotched and ſpotted with Crimſon, the others of the Colour of red *Port* Wine: extremely ſingular and pleaſing. They will flower here; and Seeds muſt be ſav'd with Care.

The Plant is ſo ſingular that it is worth preſerving thro' the Winter; and this is to be done by preventing its flowering, and defending it from Cold.

If one or two of them be tranſplanted two or three Times during the Beginning of Summer, and the Heads cut off when the Buds of the Stalks for flowering appear, the Plants being remov'd at the Approach of Winter into the Stove, will live throughout that Seaſon, and flower early in Spring.

This is the Management by which we have brought forth ſeveral Flowers of Autumn in early Spring: an Article of Gardening little underſtood, but very pleaſing.

The intelligent Reader will ſee this in the ſeveral late Plants we have given in theſe Numbers, figur'd from Nature at the Time of this Flowering.

CHAP.

CHAP. II.

The Management of the Flower-Garden.

WE have directed the Gardener to ſhelter his Hyacinths from the Severity of Froſts, without choaking them for Want of Air. Their Stems will, by this Management, now be advancing apace, and he muſt prepare for their Support. The Weight of a double Hyacinth is too much for its Stalk; which, though thick, is juicy.

There is a great deal of the Beauty loſt when the Flowers droop, and this is the Time to prevent it, by giving a proper Help for the Stalk.

Near every Root let there be thruſt into the Ground a ſhort but ſtrong Stick; not Willow freſh cut, as I have ſeen in many Places; for it will ſhoot at this Seaſon, and drawing Nouriſhment for itſelf, will ſtarve the Root.

Let it be a dry Piece of Wood, painted of a pale green, like the Stalk itſelf, and not exceeding its known and expected Growth in Height. The great Care muſt be to thruſt this ſo deep into the Ground that it may be firm; ſo near the Plant that the Stalk may be faſtened to it without Violence; and yet not to touch the Root.

It will thus anſwer the Purpoſe, and be unſeen: for they have little Notion of a Garden, who think tall, carv'd, and painted Sticks an Ornament. The Art is to conceal the Support, and even the Tyeing. This ſhould therefore be done with green looſe Yarn, and no dangling End be left hanging.

Let none blame this Attention to the leaſt Things: they are the moſt neglected.

The Auriculas are in the ſame Condition with theſe Plants, budding for Flower: they will require the ſame Care and Attention; and he who knows his Kinds, and where he is to expect a heavy Cluſter, will do very well to prepare for its Support, by a ſmall Stick like the Stalk, and by a Tying of the ſame Colour.

Let the Plants be carefully guarded from cold Winds and too much Rain: but, on the other Hand, let them not either be choak'd by Covering, or deſtroy'd for Want of Water.

Let the Air come to them freely, though cold Blaſts are kept off; and when the Mould is dry, let them have a little Water; but, in the giving this, Care muſt be taken not to hurt the Buds. It muſt be ſprinkled from a ſmall Pot round the Edges of the Mould; for if any Quantity of it fall upon the Part where the Bud is riſing, it will lodge there, and will rot; or, at leaſt, greatly damage the tender Part of the Stem.

This Care being taken of the Spring Flowers, it will be proper to look to the choicer Kinds of thoſe for a more advanced Seaſon.

The Reader will remember what we directed to be done ſome Time ſince to the Pots of Auriculas; the ſame will be now needful to be done to the Carnations; and the flowering of theſe Plants well depends greatly upon this Dreſſing.

The preceding Autumn many fine Carnations were directed to be potted for this Seaſons flowering; it is theſe that now require dreſſing.

Firſt let all dead Leaves be taken off, and let the Surface of the Mould then be ſtir'd with a Trowel, taking Care to break it as far down as can be done without injuring the Roots: then let this broken Earth be taken off, and freſh Compoſt of the proper Kind put in its Place. This done, give a gentle Watering to all the Pots round the Edges; and repeat it from Time to Time as the Mould grows dry.

Nature is now at work in the Root, forming the intended Flower, and ſhe will be thus ſtrengthned at the Time when that is moſt needed.

Fix upon ſome Spots for a ſecond Parcel of thoſe Annuals which are to be rais'd where they remain: theſe forming a kind of Cluſters, tho' not of the moſt ſpecious Flowers, yet are pretty Ornaments, and ſerve the great Purpoſe of Variety.

If they be well diſpos'd, they ſerve as little Thickets breaking in upon the Uniformity of the Plantation in the Borders; and the taller and more ſpecious Flowers ſhew themſelves more diſtinctly and more gracefully by this Mixture, than when the Eye is carry'd on from one to another in an uninterrupted Manner.

This Week let ſeveral Spots of a Yard in Length, and of the Breadth of the Border, be ſown for this Purpoſe, with the *Ketmia Veſicaria, double Poppy*, and *Candy Tuft:* and in appropriated Places let the Gardener put in ſome *Sweet* and *Tangier Peaſe.*

Where there is a diſagreeable Stump, or other natural Deformity that cannot well be remov'd, theſe hide it; they will run up the diſagreeable Part, and cover it with Flowers as well as Foliage.

All that is to be done to theſe ſeveral Plants is to thin them where they riſe too cloſe; and let the Gardener, in this, as well as other Inſtances, remember that the univerſal Error is leaving theſe too near. A few well nouriſh'd Plants will fill the Spot and anſwer the Purpoſe better, as well as be in themſelves handſomer, than a greater Number of the ſame Kinds ſtarv'd and crowded.

The Difference in Aſpect of a Garden and a Field, in Reſpect of ſuch Plants, is, that wild they grow irregularly; and, in the Borders the free Ground is ſeen between them. Theſe are a kind of Plants which have more of the Weed than the Flower Aſpect; and, if not thus manag'd, the Spots where they riſe will have an Air of rude Wildneſs.

Therefore, when the Plants appear, let all but a few of the ſtrongeſt be pull'd up: after this, let the Ground between them be very well clear'd from Weeds, firſt by Hand; and when the Plants are ſtrong by hoeing, and breaking the Surface. From Time to Time let them have gentle Waterings, and particularly when the Buds appear for flowering: upon a good Supply at that Time depends in a very great Meaſure the Luſtre and the Bigneſs of their Flowers.

SECT. II.

The Management of the SEMINARY, *for this Week.*

LET the Gardener this Week continue the ſowing of biennial and perennial Flower-Seeds, for a Supply for the Borders in ſucceeding Seaſons. We have directed the Manner of this in the laſt Number, and there is little Trouble.

The Kinds proper for this Sowing, are the great *Scarlet Lychnis*, with other of the *Lychnis* Kind not annual; and the *Stocks*, *Campanulas*, and *Greek Valerian*.

The common Method of propagating the laſt, and indeed moſt other of the fibrous-rooted Perennials, is by parting the Roots: but we have, in other Inſtances, ſhewn the Preference of raiſing Plants from Seed, and it holds true in a greater or leſs Degree in all. The Trouble is nothing, and Plants loſe themſelves by repeated Propagation from parting.

Remove out of the Beds where they are too cloſe, the Yews, Hollies, and Cypreſſes, planting them to a greater Diſtance, if they be not yet wanted in the Garden, or ready for it.

This Removal will be attended with no Hazard, if done with Care, and the Earth covered about their Roots; and we have ſhewn how uſeful the frequent Removal of young Trees in a Nurſery is from its making them ſhoot many Roots in a ſmall Compaſs; and ſuffer leſs at their laſt Removal.

In another Bed, let the Seeds of the Fir and Pine Kinds, carefully ſeparated from their Cones, be ſown; and the *Saſſafras* and *Virginian Cornus* on other Spots.

The ſame Care is requir'd for all theſe in the firſt raiſing, and it is very little: the Bed ſhould be defended by a few Buſhes; and the Ground, when the young Trees appear, kept very clear from Weeds, refreſh'd with Water when too dry; and the Plants, if in Danger from a too hot Sun, are to be ſhaded by ſome of the Buſhes.

The particular Management for each Kind we ſhall give under its ſeparate Head; here we remind the Gardener only what is to be done in general.

Whatever Exotic Trees and Shrubs we have directed to be rais'd from Cuttings, in the open Air, will now come under the Gardener's Hand for that Purpoſe.

Let him ſelect a Part of the Nurſery where the Ground is not too dry: let him dig and break the Mould very well; and, dividing it into as many Parts as he intends Kinds, let him plant theſe carefully, fix and gather up the Mould well about them; and if the Place have not a ſufficient natural Shade, let him defend the new Plantation by a Reed-Hedge.

Let the Ground be kept in a moderate Degree of Moiſture, neither dry nor crumbly, and perfectly clear from Weeds; they will thus root in due Time, and after one Year will be fit for removing.

Let the Gardener now look carefully over the Beds where he ſow'd the Seeds and Fruits of Trees and Shrubs the preceding Autumn; many of them will be now up, and he muſt cheriſh and protect them.

If the Ground be too dry, let him refreſh it with Water. This muſt be done in a Morning, two Hours after Sun-riſe, and with a light and careful Hand.

He muſt let no Weeds ſtand among them; and he muſt bait Traps for Vermin, and ſtick up Scarecrows, or hang Lines of Feathers, to keep off Birds.

The Growth that will ſoon be out of Danger, is now of all others the eaſieſt of Deſtruction, and the moſt tempting.

SECT. III.

POMONA, or the FRUIT-GARDEN.

WE laſt Week gave the Method of planting Vines in a Way practis'd very ſucceſsfully by a few who have kept it a Secret hitherto: and all that need be added for the preſent, is, that the Earth muſt not be ſuffered to grow at firſt too dry about their Roots.

For the Sake of thoſe who ſhall prefer the old Method by Cuttings, (for Prejudice is powerful, and Men of great aſſum'd Knowledge prefer it) we ſhall direct the Management in that Way.

The Cuttings planted for this Purpoſe, ſhould be about fifteen Inches long; they ſhould be Shoots of the laſt Year; and there muſt be about a Finger's Breadth of the old Wood cut away with them.

Theſe muſt be plac'd ſlanting in the Ground, with only one Eye above the Surface. As to the reſt, the common Management ſerves them, and they rarely fail to grow; but the Advantage is all on the Side of Layers, for they raiſe better Vines, and in a much leſs Time; and they are more certain.

The Method by Cuttings was here an Expedient invented by cunning Idleneſs; and it has been ill introduced, in general, as preferable to the other. The Layer when planted is to be cut: and in this the common Practice is alſo erroneous.

We will ſuppoſe two trailing Branches upon it, as is cuſtomary: every one knows theſe are to be reduc'd, but the proper Manner is not ſo well known. They are commonly ſhortened to two or three Buds a-piece; but it is better to take off one Branch and ſhorten the other. This we ſhall conſider at large treating of the Vine.

In favourable Seaſons ſome of the Fruit-Trees againſt Walls will begin to bloſſom: theſe muſt be defended from Froſts, or ſharp Winds, or there will be Miſchief from their early Opening.

For this Purpoſe, a Reed Fence, or a Guard of Canvas let down from the Top of the Wall, will be very uſeful. Whenever the Nights are froſty theſe are to be let down; but the Trees muſt be no longer covered than the Danger laſts; for that would otherwiſe bring on new Hazards.

We have explain'd this in our Directions for guarding the Beds of curious Flowers: they muſt not be made too tender while they are protected from the ſevereſt Nights: they would that Way be in Danger from every chill Blaſt afterwards; therefore theſe Defences muſt only be us'd during the ſevere Nights; and the Trees muſt be left open to the Sun at all other Times.

After this Defence is left off if there come dangerous Blaſts, the beſt Way will be to ſtick in a few ſmall Pieces of Furze-Buſh in proper Places, ſo as not to hurt the Bloſſoms, and they will keep off the Danger.

This Week let the Raſpberry Beds have the Refreſhment of a good Digging. Thoſe who are accuſtomed to the common and ſucceſsful Practice of Nurſeries, know how cloſe the Earth may be dug between the Rows of young Trees without Danger.

The ſame Method is to be practis'd here: the whole Ground between them muſt be dug up deeply and carefully, and be very well broke with the Spade. This will encourage the Roots to ſhoot new Fibres in Abundance; and the Surface will be open to the Dews and Rains.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THE Cauliflower Plants which we directed ſome Weeks ago to be rais'd upon a Hot-Bed, will now be of a Bigneſs to require tranſplanting.

A ſecond Hot-Bed muſt be prepar'd for them, and it muſt be covered with an Inch more of Mould in Thickneſs than the laſt. This Bed muſt be kept covered till the Mould has acquired a proper Temper of Heat, and then the Plants muſt be carefully taken out of their firſt Bed and ſet in this, at the Diſtance of two Inches every Way. The Bed muſt be ſhaded, and they muſt be water'd till they have taken good Root: but after that the Glaſſes muſt be rais'd in the Middle of every fine Day, and they muſt have Air, that by Degrees they may be brought to a Hardyneſs for tranſplanting. The Gardener muſt remember they are, after this, to take their Growth in the open Ground; and this gradual hardening of them, will, at the ſame Time, prevent their running up too weak.

This Week is a very proper Seaſon for ſowing Red Cabbage. The Ground muſt be well dug, and carefully levell'd for it: and in a Month they

March. they will be fit for their firſt Removal. They will then require a cool ſhady Border, with a freſh but not rich Mould, and ſhould be planted at about four Inches Diſtance.

They will thus take their firſt Shoot properly, and will eſcape the Danger of running up too long ſhank'd.

This Week will do very well for the ſowing Parſneps and Carrots: we have ordered our Gardener to do this more than once already; but, to guard againſt Accidents, it will be very proper to put in a Crop now. The ſame Rule he may obſerve with Leeks and Onions; and ſeveral other of the common and uſeful Products: they will have the Advantage of Time that are put in earlier; but there is no Seaſon throughout the Year at which the Seeds will ſhoot more freely than now.

Thoſe who like the Alexander Flavour may ſow a Crop now; they muſt be afterwards blanched up in the Manner of Celeri; and to many Palates are preferable to that more common Stalk.

The Sowing at this Seaſon is preferable to others, becauſe when put into the Ground later, they grow ſlowly; and, when earlier, they run up to Stalk.

This Week let a Piece of Ground be dug up for Dandelion. It is a pleaſant and tender Plant, of the Endive Nature; and, when well manag'd, greatly preferable to that: better taſted, and more tender: it ought to be prefer'd alſo as a more wholeſome Plant.

The *French* have taught us to eat it in Sallads; and many, indeed moſt, are fond of it; but none of the Gardening Authors have directed the Management.

Mr. Miller condemns it as a Weed; and adviſes ſuch as would prepare it for Food or Medicine, to pick it up in the Fields. There is no Plant whatſoever ſo eaſily cultivated, or ſo much improv'd by Culture.

The true Method is this:

Let a good Quantity of Seeds be gather'd from the wild Plants, juſt when the Down begins to ſhake, and let them be taken from the largeſt and rankeſt. Culture will take off all the Strength of Flavour, and theſe Seeds will yield the ſtrongeſt Plants.

Let a Bed be dug up in a ſhaded Part of the Ground, working in ſome old Dung from a Melon-Bed, in the Digging. Scatter the Seeds carefully and regularly over the Surface, when it it has been laid perfectly level, chuſing for this Work the Evening of a mild Day. Sift ſome Mould, about a Quarter of an Inch Thickneſs over them, and give a gentle Sprinkling of Water.

We need not tell the Gardener Seeds of Dandelion will quickly grow, but it is his Buſineſs to promote this as much, and keep the Plants growing as faſt as he can, for upon that depends the Tenderneſs and Flavour of the blanch'd Part.

Repeat the Waterings gently every other Evening till the Plants appear, and then give them a good Sprinkling every Evening.

Dig up a Piece of very mellow Ground in a Part of the Kitchen-Garden not too much expos'd; and when the Plants have a little Strength thin them to ſix Inches Diſtance, planting thoſe which are pull'd up, in the Piece of Ground dug for that Purpoſe. Water theſe, as well as thoſe which remain in the Seed-Bed, freely; and by all Means encourage their Growth, taking up Weeds as ſoon as they appear; and breaking the Ground between them.

March.

By this Means the Leaves will ſpread into a Circle, and ſoon grow to a good Size; the Bud of the Stalk would ſoon after this appear, but this muſt by all Means be prevented. The taking them up will ſtop it; and the Time is come to do that for blanching.

Let a larger Piece than either of the firſt be dug up for this Purpoſe; let it be rich Mould that has not lately been dung'd, and the Place not too much expos'd to the Sun: let it be dug the full Depth of the Spade, and broke fine.

Level the Surface, and draw Lines a-croſs and along at eight Inches Diſtance.

This being ready, forbear watering the Plants for two Days. Then in an Evening take them up. Open a Hole with a Trowel in the Centre of each Square, and in each Hole place one Plant, ſo deep that the Leaves may be bury'd, except their Tops.

To prepare them for this Planting, the Fibres of the Roots muſt be trim'd, and the inner Leaves gather'd together, and ty'd looſely at the Top with a Piece of Baſs. Then plant them as deep as we have directed, ſo that the Point of the Bundle may be level with the Surface: draw up the outermoſt Leaves about theſe, and then carefully gather in the Mould.

This done, cut off the Tops of the outer Leaves, and the Nouriſhment will all go to the bury'd Part. Give the whole Ground a gentle Watering; and leave them to Nature.

The Plant is ſo hardy, that its Growth will ſcarce be at all check'd by this; the old Leaves which were on the Outſides, and were not ty'd up, will by Degrees decay; but they will, for ſome Time, aſſiſt greatly in the blanching of the others: the Leaves which are ty'd will grow up from their Tops, and the Part under Ground will become tender, white and delicate, ſerving only as a kind of Footſtalks to the upper Part of the Leaves.

The Ground muſt be kept clear of Weeds, and the Plants water'd only once in three Days, after they begin to grow well; for if wetted too much at firſt they would rot.

As they ſhoot up the Leaves higher, the Mould muſt be drawn up about them; and they muſt be taken up for Service as wanted.

This is a Crop that ſhould be us'd off quick; for the great Excellence of it is the bringing it ſo ſoon to a Size; and this is a Seaſon when it cannot by any Art be kept long from ſhooting the Flower-ſtalk.

A Month after the firſt Crop is ſown, a ſecond ſhould be put into the Ground; and this Sowing repeated once in five Weeks during Summer. There will by this Means be a continual Supply, even throughout the Winter, for the late ſown Plants will laſt a great while.

E D E N:

A

Compleat Body of Gardening.

* * *

NUMBER XXX.

For the firſt Week in *APRIL.*

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SECTION I.

FLORA, *or the* Pleasure-Garden.

CHAP. I.

Flowers and curious Plants now in their Perfection.

I. PROLIFEROUS OXLIP.

April. Pl. 30. Fig. 1.

IN this and the ſucceeding Chapter we treat of Varieties rais'd, by the Gardener's Art, from Plants wild in our Paſtures.

The Oxlip itſelf, in the ſimple State, is conſider'd by the ſtrict Eye of Science but as a Variety of the Primroſe Kind: it appears indeed a mongrel Breed between the common Primroſe and the common Cowſlip, the Primroſe Flowers appearing cluſter'd in it upon the Cowſlip Stalk.

We have already acquainted the Reader, that Linnæus conſiders the Primroſe and Cowſlip but as two States of the ſame Plant; the Oxlip therefore it is plain he muſt rank with them under the Name of a Variety; and 'tis a Luxuriance in the flowering of that Plant we here lay before the Reader; the Offspring of the common Oxlip-Seed well manag'd.

The old Botaniſts held the Primroſe and Cowſlip diſtinct in Species as Appearance; and this Plant, in its wild and ſimple State, a Species ſeparate from either. They call'd it *Paralyſis major*, *Paralyſis inodora aut vix odora*, and *Verbaſculum pratenſe, aut Sylvaticum inodorum.* In the ſpecious Variety of which we treat in this Place, they call'd it *Paralyſis flore geminato inodora.*

The Name of the whole Kind in the Linnæan Botany, is, *Primula foliis dentatis rugoſis*; and he gives, as the trivial or common Name of the Oxlip, *Primula elatior:* this Kind, if dignify'd with a ſeparate Name, muſt be call'd *Primula elatior prolifera.*

April.

The Root is compos'd of numerous very long Fibres, connected to a ſmall Head.

The Leaves riſe without Footſtalks, and are large and oblong, conſiderably broad, and of a pale green; whitiſh on the under Side: they are rough on the Surface, and have irregular Veins; and they are a little wav'd or indented at the Edges.

The Stalk riſes in the Midſt of theſe, and is round, firm, upright, and ſix Inches high: its Colour is a pale green, and it is a little hairy. On the Top of this main Stem there is a Circle of Red, and from this Part riſe ſix or eight ſlender Footſtalks of conſiderable Length, ſupporting the Flowers, ſpread out by this Means, into a kind of Umbell.

Theſe Footſtalks are very delicate; of a fleſhy Hue, and a little hairy: on the Top of each ſtands a double Flower; not full of Petals from the ſame Baſe, as in the common Way; but proliferous, as in that elegant *Datura* deſcrib'd in a preceding Number. One Flower crowns each

Footſtalk, and from the Hollow of this riſes another, equal in Bigneſs and of like Form.

The Flower reſembles the Primroſe in Shape; but it is one of the Singularities of the Plant, in this State of wanton Luxuriance, that there is no Cup: the firſt or undermoſt Flower ſupplies the Place of a Calyx to the other; but it is notwithſtanding an abſolute Flower, not in the leaſt like a Cup.

In the wild State of the Plant there riſes ſuch a ſingle firm Stalk as we have nam'd, crowded with a Number of Flowers on ſeparate Pedicles, produc'd from its Summit: and often from the ſame Root there will riſe one or more ſingle Footſtalks, bearing each one Flower.

This ſhews LINNÆUS right in making the Plant a Mongrel between the Cowſlip and Primroſe, and is his Reaſon for connecting them all: but in either Caſe, the Flower has its long hollow Cup, as the Primroſe and as the Cowſlip have: Nature in this proliferous Kind beſtows an under Flower in the Place of that Appendage.

In the *Polyanthous* we often ſee the Cup ſwelling beyond its natural Size, and ſtain'd with the purple of the Flower, but that is much leſs ſtrange. In this Caſe, an abſolute Flower ſupplies the Place of it.

The Plant from this receives its great Singularity; and the Appearance is not leſs beautiful. The Segments are wide expanded, and the Colour is a bright and fine yellow.

When the Plant is not well manag'd, the Flowers will be ſmaller and paler; but when full nouriſh'd, and not ſtinted for Room, they have a very lively Tinge.

The Conſtruction of the Flower we have deſcrib'd before, for it is the ſame with the others of the *Primula* Kind; one Petal forms it, and this is tubular at the Baſe. It has a ſhort half round Neck, and from this Part it ſwells out into a broad expanded Rim, cut into five Segments, which are obtuſe and heart-faſhion'd.

Within the tubular Part of the Flower ariſe five Filaments; they are ſhort, and have pointed and convergent Buttons. Amidſt theſe appears a ſingle Style: it riſes from a roundiſh Rudiment, which afterwards becomes oblong, and holds in a ſingle Cell numerous Seeds.

Five Filaments ſhew the Plant one of the *Pentandria* of LINNÆUS, the fifth of his Claſſes; and the ſingle Style declares it one of the *Monogynia.*

Culture of the PROLIFEROUS OXLIP.

The Gardener is directed by his profeſs'd Inſtructors to part the Roots of this Plant in Autumn, and thus propagate and encreaſe it: but we have told him often, that thoſe Plants, whoſe Elegance has originally riſen from Culture, will degenerate.

The longer they are left in their Place, and the leſs Care is taken, the ſooner they degenerate; but at the beſt, when only parted Roots are us'd to propagate them, they will grow worſe from Time to Time: the Flowers will be ſmaller, and their Colour fainter.

This is the Diſtinction of the Effects of Art from the abſolute Products of Nature. The laſt continue invariably the ſame; and if at any Time Chances alter them, they will return to their original State.

Great Nouriſhment may enlarge a wild Plant to twice its Size; or ſtinted Supplies may check its Growth; but, in either Caſe, Seeds from it in common Ground will produce the Plant as at firſt; or the ſame Root with common Nouriſhment return to its firſt Condition.

Thus permanent is Nature: but in the Luxuriances rais'd by Art the Courſe is otherwiſe; and that upon the ſame Principle. Nature is at the Bottom; and will take every Advantage of returning to herſelf.

Thus when the proliferous Oxlip, rais'd from Seed, is propagated by parted Roots, the Flowers loſe their fine Colour, and diminiſh in Size; and, if left neglected, they will become ſingle, ſmall, whitiſh, and abſolute Primroſes. One on a Stalk will at length riſe from that Root, or its ſeparated Parts; whence better Culture produc'd theſe elegantly doubled Flowers.

If the Gardener will follow the eaſy Courſe of parting the Roots, let him every other Year give them a new Soil; but if he would diſtinguiſh himſelf by finer Flowers than others, and raiſe them beyond what himſelf has before ſeen, let him proceed thus:

Let him mark among the Plants when in flower ſuch as are ſtrongeſt in the main Stalk, and have the largeſt Tufts; the Flowers muſt alſo be large: the Degree of Colour he need not regard, for that will be encreas'd by his ſucceeding Management.

Let him mark ſeveral of theſe fine Plants with Sticks, and watch their Seeding. All will not ripen them: but where he ſees the Rudiment well ſet, as it is very conſpicuous in theſe naked Flowers, let him take Care of thoſe for Seed. Let him break the Ground about them with a Trowel, and once every Day give a very gentle Watering.

Let him continue this till the Seed-veſſels have acquir'd their full Bigneſs; but after that let him give no more Water: they will ripen ſtronger Seeds without it.

When the Heads are harden'd upon the Stalk let him cut them off, and lay them to dry leiſurely upon a Shelf: in a Month let him pick out the Seeds, and ſpread them upon a Paper, and at the ſame Time let him prepare the Border for them.

This muſt be in a Part of the Garden open to the South-Eaſt; and under ſome Shelter and Shade of Trees. Let him mix four Parts common Paſture-Earth, and one Part Mould, from under a Wood-Pile: let this be put into the Border, and the Seeds ſcatter'd on the Surface. They muſt be ſown thick, for many will fail.

Throw ſome looſe Thorn Buſhes over the Ground; and thus let it remain the Winter, only weeding it at Times. In Spring there will be a Number of young Plants: let them be thin'd to eight Inches Diſtance, taking up the weakeſt, and planting them out. Let them be water'd and kept clear from Weeds; and in Autumn, when the Leaves are decay'd, let a little freſh Mould be ſifted over them. Thus they will be ſtrengthned during Winter; and the next Spring they will flower.

The fineſt muſt be left in the Bed, the inferior Kind taken up and planted elſewhere, for none will be very poor ones: and after this they muſt be taken up every Autumn: freſh Mould, made up as the former, muſt be brought into the Place of it; and the Roots, trim'd at the Ends of the Fibres, muſt be planted in it, at ten Inches Diſtance, and cover'd up to the Bud.

Thus they will flower every Year ſtronger; and from the beſt of their Flowers Seeds ſhould be ſav'd, and every Year ſown upon the Ends of the ſame Bed.

They will raiſe a Supply, and the Flowers will continue improving from Succeſſion to Succeſſion. There are no Limits to the Effect of Culture.

2. GREAT DOUBLE COWSLIP.

Pl. 30, Fig. 2.

So much of what has been ſaid of the laſt Plant is applicable to this elegant Variety, that a few Words will contain its Nature, Characters, and Culture. As that is an Improvement of a Variety from the Oxlip, this is the Cowſlip of our Meadows, enlarg'd, enrich'd, and fill'd by a judicious Culture.

Both riſe from the ſame original Stock, both therefore belong to the ſame Claſs and Section; and however they may be obliterated by the Multiplication of the Petals, both have the ſame Characters.

The old Botaniſts call it, in this State, *Paralyſis hortenſis flore pleno.* LINNÆUS refers it, with the reſt, to the original Species, *Primula foliis dentatis rugoſis*, Rough dented-leav'd *Primula:* comprehending the three Field Varieties, Primroſe, Cowſlip and Oxlip, under that Term, and with them all the Luxuriances from each rais'd in Gardens.

This differs from the common Cowſlip of our Meadows only in the Number, Bigneſs, and double Fulneſs of the Flowers.

The Root has a ſmall Head, hung with innumerable Fibres.

The Leaves are numerous, rough on the Surface, indented at the Edges, of a pale green, and mark'd with paler Veins: narrow'd at the Baſe, ſo as to reſemble Footſtalks; and paler on the under Side than upper.

The Stalk is ſingle, round, upright, a little hairy, of a pale green, and ten Inches high. From its Top, where there is a yellowiſh Circle, and ſometimes, but not conſtantly, a membranous Appendage, ſerving as a general Involucrum, riſe from eight to twelve, or more ſlender Footſtalks: greeniſh, and about an Inch in Length.

Each of theſe ſupports one Flower. This is not naked as in the preceding Plant, but covered at the Baſe with its proper Huſk. This is of a pale green, long, hollow, divided by five Segments at the Edges, and rib'd in five Places its whole Length.

The Flower conſiſts of numerous Petals; in Nature it ſhould be but of one, divided indeed deeply into five Segments; but here the outer Diviſions, when the Doubleneſs is perfect, are continued to the Baſe, ſo as to form a kind of diſtinct Petals, and others riſe innumerable within them. The Colour and the Bigneſs of the Flower depend in a great Meaſure on the Degree of Culture.

When perfect, the Cluſter of the Petals is large, and the Colour a Saffron yellow. It will be ſometimes ſo deeply tinctured with the Red, as to appear a kind of Orange Scarlet. When leſs Care has been taken in raiſing the Plant, and when it has ſtood to degenerate, the Flowers are ſmaller, paler, and leſs double.

Culture of this COWSLIP.

The ſame Soil, Situation and Management, ſuit this as the other, only that the Mould ſhould be of a ſomewhat firmer Nature, and the Place a little more expos'd to the Sun. The Strength of the Root will depend upon the former Conſideration; and the Colouring of the Flower will be influenced by the other.

It is but rarely theſe double Flowers produce Seeds; but whenever that happens, it ſhould be watch'd with Care.

The fineſt double Cowſlips may be produc'd from Seeds of the ſingle Kind; but there will be a great deal of Time and Trouble ſav'd by beginning from the Seeds of a double Flower.

Whichever Method be taken, the Courſe of Management muſt be exactly the ſame. The Seeds muſt be ſown upon a Border in the ſame Manner as thoſe of the former; and from the Plants thus rais'd Seeds are to be ſav'd again, and thus the firſt Improvements rais'd to greater Elegance.

From all theſe, Partings of the Roots, when of proper Growth, will multiply the Plants; and and this is to be done toward the End of *Auguſt.* But the Method by Sowing continues Improvements, and adds Variety.

In this, as in the preceding Plant, and many other Inſtances where artificial Heat is not needed, we adviſe the Gardener every Year to ſave the Seeds of ſome one fine Flower, and ſow them on the Ends of the Bed. No Trouble is requir'd; and a few young Plants of the ſame Kind with the others can be no Blemiſh.

April. The ſtrongeſt only ſhould be ſuffer'd to remain; and theſe at due Diſtances. They will in their natural Time riſe to Flower, and there will be produc'd ſeveral Varieties, and theſe often more rich than the moſt elegant and improv'd of the others. April.

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3. GREAT VIOLET CROCUS.

Pl. 30. Fig. 3. Among the vaſt Variety that Culture has produced from the Seeds of the common Crocus of the Spring, we have not one more conſpicuous than this; tho' ſeveral, on a near View, more delicately painted.

Theſe we have occaſionally nam'd before: this muſt not be deny'd its Place. Leſs Care and Culture raiſe it; and beſide its maſculine and noble Beauty, it has the Advantage of early flowering and of well ripening the Seeds.

It is uſeful therefore to the good Gardener in more than one Capacity: we have mentioned on ſeveral Occaſions what may be done by ſowing and re-ſowing of theſe and other Flowers; and the firſt Care is to be a proper Stock. For all the feather'd, painted, and double Crocus's, there is not a Stock ſo good as this: the whole Plant is bold and large, the Petals of the Flower are well form'd, and the original Colour is ſtrong to a great Excellence.

All the Time the Gardener is expecting Seeds from it, his Borders are decorated with its native Beauty.

The more correct Botanical Writers, we have before told the Student, call all the Crocus by one common Name; but 'tis fit we tell the Gardener how this has been diſtinguiſh'd among the earlier and leſs critical.

The Breadth of the Leaves, and Bigneſs and Colour of the Flower, were its firſt Marks of Diſtinction. Hence Clusius call'd it *Crocus vernus latifolius purpureus flore majore.* This J. Bauhine copy'd, and Caspar little alter'd: his Name is *Crocus vernus latifolius flore purpureo magno.* The others call it *Crocus vernus maximus:* and the induſtrious *Dutch*, in whoſe Gardens it long ſince attain'd high Excellence, commemorating the Place whence they receiv'd the Roots, *Crocus purpureus Neapolitanus:* Purple Crocus of *Naples.*

Linnæus joins it with the other Varieties, under the common Name *Crocus ſpatha univalva, radicali corollæ tubo longiſſimo:* Crocus, with the Scabbard from the Root of one Piece, and the Tube of the Flower very long.

The Root is a large Bulb, covered with a ragged brown Skin, and ſending from the Bottom many Fibres.

The Flowers riſe from the Top of the Root, and three or four Leaves with them: theſe in both Kinds reſemble thoſe of the common yellow Crocus, but that they are longer; the Whole being a bolder and more robuſt Plant.

The Leaves have a conſiderable Breadth, and they riſe nearly upright, till the Dews weigh down their Tops. At the Bottom they are whitiſh, blanched by the Mould; in all other Parts of a blackiſh green; but there runs along the Midſt a white Line, much broader than in any of the other Crocus's. The Leaves alſo are ſhorter in Proportion to their Breadth, and they are more pointed.

The Flower riſes from the Root, ſupported by its own long tubular Baſe, which is ſtrengthned by the Scabbard. This is a brown Membrane, riſing with it ſingle from the Root, and ſurrounding it nearly to the Place where it ſpreads out to form the Body of the Flower.

The Segments which make the Body of the Flower are ſix: they are oblong, pointed, and ſwell out in the Middle. Their Colour is a deep blue, with a Tinge of Purple, very like that of the Violet, and with the ſame Velvety Hue.

There is ſometimes a Line of White along the Middle, but this deviates from the Character of the Flower: the Variations are innumerable; and every Time the Gardener raiſes Seedlings he will have additional Kinds: we here deſcribe the plain Flower, and unleſs theſe go farther than the Paleneſs of a ſingle Line, it is better to be perfectly uniform, and without them.

The Student knows already, that three Filaments are found in the Flower of the Crocus, and in their Centre a ſingle Style. This refers the Plant to the *Triandria Monogynia*; the third Linnæan Claſs, and its firſt Section.

Their Number and Situation are the ſame in all the Varieties, but their Colour is leſs fix'd in this Flower; they are white, and they are crown'd with vaſt yellow Buttons. Theſe diverſify the Flower, and the Style more: it is pale in the Body; but its Stigma or Top, which is large, and divided into three Parts, is of a beautiful gold yellow.

In an Evening the Flower has a light Scent: it is ſingular and not unpleaſing.

The Culture of this muſt be the ſame with that of the other Crocus's which we have deſcrib'd before. And in the raiſing Seedlings, there will, together with many Varieties, be ſome noble Flowers of the original Colour.

April.

4. AUSTRIAN DWARF IRIS.

Pl. 30. Fig. 4.

The *Iris's*, like other Plants long cultivated in our Gardens, appear a confus'd tho' elegant Family. The Species in Nature are many, the Varieties rais'd by Art are more; and 'tis not in the common Eye to diſtinguiſh which has the certain, which but the caſual Diſtinction.

We ſhall endeavour to unravel the perplex'd Thread, following Nature and her great Miniſter LINNÆUS, arranging here, and in ſome ſucceeding Chapters, the ſeveral Varieties under thoſe Species to which they belong.

The *Auſtrian Chamæ-Iris* is Parent of a numerous Family of Gardeners Variations; and has been deſcrib'd under its various Forms as if many Species were found in them.

To have denominated the original Plant from the Colour of its Flower, were to have left it unknown to the Gardener, becauſe of the many Variations under his Care. We have therefore nam'd it from that Country where every craggy Hill and Sun-burnt Thicket ſhews it native; and where in richer and more favourable Soils its Colours acquire a Luſtre hardly equal'd in our Gardens.

The common Writers call it *Iris humilis latifolia*, *Chamæiris latifolia*, and *Chamæiris minor.* To theſe Names they add farther Diſtinctions from the Colour of the Flower, of whoſe Changes we have ſpoken; and it is not wonderful, that in allowing this as a Character, they have run into Confuſion, and deſcrib'd it many Times over.

C. BAUHINE calls it *Chamæiris minor flore purpureo*, and *Chamæiris variegata*, purple and variegated Dwarf *Iris:* others, *Iris violacea*, Violet *Iris.*

LINNÆUS, taking his Additions from more certain Marks, calls it *Iris corollis barbatis caule foliis breviore unifloro:* Bearded *Iris*, with the Stalk ſhorter than the Leaves, bearing a ſingle Flower.

The Root is tuberous, irregular, and whitiſh: it runs juſt under the Surface, and not unfrequently above it; and is thick, knotty, and of a faint but not unpleaſing Smell. The Taſte acrid and nauſeous.

The Leaves are numerous, and of a pale but elegant green: they are broad, and they terminate in a Point, they are three Inches in Length, and of a firm Subſtance.

In the Midſt of theſe riſes a ſingle Stalk, firm, knotty, flatted, and about two Inches high, bearing a ſingle, but large and very conſpicuous Flower. The Leaves exceed the Stalk in Height, but the Flower riſes above them; and the whole Plant has a moſt pleaſing Aſpect.

There is no Smell; but Nature has well aton'd for that Defect in Size and Colouring. Naturally the general Colour is a blueiſh Purple; paler and leſs glowing where the Soil does not ſuit; but in more favourable Ground wild, it becomes deep and very rich in Tinct.

This is the moſt natural Diverſity; but it is ſometimes white; and the ſame Defect of Nouriſhment which denies Colour to the Flowers, reducing alſo their Subſtance, they become papery, and, though the White wants Luſtre, delicate and not unpleaſing.

The laſt Variation ſeen in the wild Plant, is, that the Petals are ſtain'd with innumerable Veins, of a perfect violet; which, when the Body of the Flower has more of the purple, and leſs of the blue Tinct, gives a wonderfully pleaſing Variation.

Thus far Nature wantons in the Colouring of this Flower; but in Gardens the Luxuriance and Change are endleſs.

The bearded Part at the Baſe of the Petals, which is ſlighter in this than many other Species, is of a deep blue: the Petals that ſtand upright will be of a pale, the others of a deep purple; both plain, or both vein'd: the upper Petals will be Fleſh Colour, vein'd with purple, or ſtain'd with white; the others blue with yellow.

The whole Flower will be Fleſh-colour'd, ſtain'd with a deep purple, in regular and beautiful Veins; and this either throughout or in the upper Petals only; the others being painted with a great deal of yellow.

The lower Petals will be ſometimes perfect gold, or vein'd lightly with a fleſhy Crimſon; the upper ones in various Degrees purple.

Theſe are the univerſal Tincts, and theſe the more peculiar Manners of their Diſtribution. A Volume might be employ'd to deſcribe them in one well cultivated Border.

We have conſider'd hitherto the Colouring of the Flower, but we are now to lead the Botanical Student to its Structure; which is not leſs ſingular.

It riſes ſeemingly naked from the Summit of the Stalk, but at ſome Diſtance below there is a kind of filmy Scabbard, ſlight and inconſiderable.

Six Petals form the Flower, and they are truly diſtinct, tho' united by their Bottoms. They are oblong, large, wav'd at the Edges, obtuſe at the Ends, and variouſly diſpos'd; three are plac'd outward, and theſe droop: three others ſtand inward, and they are erect; and at the Baſe of each of the three outer Petals there is a bearded Line: this is the Nectarium of the Flower. It is not ſo conſpicuous in this as in ſome other Species, but lies in a Manner bury'd in the Hollow of the Petals.

The Filaments are three, they are ſituated upon the lower Petals, and they have oblong depreſs'd Buttons.

The Style is ſingle, and very ſhort, but its Top or Stigma, is extremely conſpicuous, large, and divided into three expanded Segments.

The Seed-veſſel is oblong, and pointed, and contains in three Cells numerous large Seeds.

The Claſs of this Plant is read diſtinctly in the three Filaments: the third in the LINNÆAN Syſtem receives all ſuch; and the ſingle Style ſhews it one of the firſt Section: its Place therefore is among the *Triandria Monogynia.*

Culture of this IRIS.

The Gardener will not need be told that a Plant with ſo large, tuberous, and ſpreading Roots, may be propagated by parting and dividing them; nor can he forget what our Leſſons and his own Experience have join'd to inform him, that when the Beauty of a Flower depends upon the ſtaining of its Petals, the Method to obtain it in greateſt Perfection is from Seeds.

Let him guard againſt ſome common Errors. If the Soil be too rich, the Plants will be luxuriant in Leaves, but the Flower will want its Beauty; and if they have too much Sun, the Stalk will be drawn up in Height, and the Flower will not only loſe much of its Luſtre, but the Plant will want its natural Singularity of Aſpect, which lies in a great Meaſure in the Shortneſs of the Stalk.

In the moſt ſuited Soils of *Auſtria* there is no Stalk above the Ground; but the Leaves expand, and the Flower reſts by its Baſe upon the Surface. This LOBEL ſaw in his Excurſions, and he has well deſcrib'd it.

In his Time it appears that an improper Management gave it, in the *Dutch* as well as *Engliſh* Gardens, a Stalk of eight Inches or a Foot high, and ſtarv'd the Flowers in Proportion. They were on theſe tall Supports, ſmall, pale, and often faintly yellowiſh.

Let theſe Cautions remain in the Remembrance of the Gardener who propoſes to raiſe the Plant; and he will not fail of Succeſs.

The beſt Soil is a rich Mould, not too damp, and the fitteſt Expoſure Eaſt and a little South.

Let a Border in ſuch a Situation be dug out, and its Place fill'd with the following Compoſt:

Mix a Load of rich Meadow-Earth with half a Load of Pond-Mud, two Buſhels of Sand, and three of old Cow-dung. Let theſe be put together in Spring, or 'twill be better if in the preceding Autumn; and while they lie in the Heap to mellow with the Weather, let Seeds be ſav'd.

For this Purpoſe, let the Gardener mark two or three Flowers; let them be ſuch as are large, deep colour'd, with ſome yellow in the Variegations; and with ſhort Stalks.

Let the Roots be refreſh'd with Water while the Seed-veſſel is enlarging; and let the Tops of the Leaves be cut off.

When it has the full Size, give no more Water; and when the Seeds are ripe, and the Huſk dry, carefully cut it off, and lay it on a Shelf, to burſt at Leiſure. When the Seeds have been ſpread abroad eight or ten Days they will be fit for ſowing.

Let them be kept no longer out of the Ground. Let the Compoſt be thrown into the Border, and the Surface levell'd. Scatter on the Seeds not too thick, and ſift over them a Quarter of an Inch of the ſame Mould. Throw a few looſe Buſhes over the Border, and leave all to Nature.

When Weeds appear take them up by Hand, and again lay on the Buſhes. In Spring watch for the young Plants, clear away Weeds carefully, and refreſh them with gentle Waterings.

When you can ſee which are the ſtronger Plants, take up the weaker where they grow too thick, and leave the Plantation at about five Inches Diſtance.

All Summer keep the Bed clear from Weeds; and when the Mould is too dry gently water it.

At Autumn ſift on half an Inch of new Mould, and the next Spring many of the Plants will flower.

Mark thoſe which promiſe beſt, that is, ſuch as have largeſt Flowers, and thoſe moſt variegated, and with the ſtrongeſt Colours.

Leave theſe in the Beds at about a Foot Diſtance; and in Autumn take up the reſt. Plant them out into another Border of the ſame Compoſt, in the ſame Expoſure, and with the ſame Diſtance.

They will flower ſtronger the ſucceeding Year, and it will then be known, not before certainly, which are worth preſerving.

A Stock of fine Flowers being thus rais'd, let the moſt perfect and beautiful be every Year mark'd for Seed; and by a repeated Sowing in this Manner, the Gardener will have endleſs Variety and Beauty.

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5. DOUBLE LEMON DAFFODIL.

Pl. 30. Fig. 5.

We have nam'd many of the Gardeners favourite Daffodils, and have yet ſeveral more to mention: they riſe from Species we have deſcribed before; therefore few Words will ſerve for their Botanical Explanation; and their Beauty is ſufficient to recommend them to the Gardener's moſt attentive Notice. Of theſe the Double Lemon Daffodil is far from the leaſt conſpicuous. It is familiar in full Perfection in the Gardens of *Holland*; but though not unknown in *England*, it does not often ſhew itſelf with us in the proper Luſtre.

It is one of thoſe elegant Varieties produc'd from the common *Engliſh* Daffodil; but the natural Characteriſtic of that Plant, its long and large Nectarium, is ſo obliterated under this State, that were there not other certain Characters in the Form of the Leaves and Production of the Flower, it would be eaſy to refer it to ſome other Kind.

The Student knows the Flower of every Daffodil is compos'd of ſix Petals and a Nectarium, which Gardeners call the Cup. This ſingular Part is ſhort in ſome, and Wheel-faſhion'd; in others, long, deep, and very large.

'Tis thus in the common *Narciſſus* in its wild State; and we have ſeen how the Gardener changes its Appearance.

Originally it is only a little wav'd about the Edge: the firſt Effects of Culture make the Undulations ſo many Indentings; from this State it becomes fring'd and ragged in a wild Variety of Forms; and, as the extreme Force of Culture in the preſent Inſtance, it is cut deeply into a Multitude of Segments, reſembling ſo many Petals.

Theſe mix themſelves with the proper Petals, from which they are diſtinguiſh'd only by being a little narrower; and form together with them a vaſt and very elegant Flower.

In this State many of thoſe earlier Botaniſts, who did not diſtinguiſh between the Characters of Varieties and Species, have nam'd it as an original and ſeparate Plant.

DODONÆUS calls it *Pſeudo-Narciſſus calyce pleno multiplici colore luteo*; and others have ſo nam'd it after him.

The LINNÆAN Botany diſclaims diſtinctive Names for the Varieties of Flowers; and we have already told the Student, the original Plant is the common *Narciſſus*, this is call'd by that Author *Narciſſus ſpatha uniflora nectarii limbo campanulato erecto petalo æquale.* The very Characters on which this Title is founded are loſt in the preſent Condition of the Flower.

The Root is a Bulb, ſomewhat oval in Form, full of a ſlimy whitiſh Juice, and furniſhed at the Baſe with many Fibres.

The Leaves are numerous, long, moderately broad, obtuſe, and generally brown at the End; ſometimes alſo ting'd with that Colour along the Edges, and elſewhere of a pale green.

The Stalk is flatted and edg'd, ſtriated, of a pale green, ſimple, and a Foot high.

Its Top ſupports, as well as it is able, one vaſt Flower; the Weight is more than can be carry'd erect by that ſlight Neck, and it droops a little.

Its Conſtruction we have deſcrib'd already: its Colour is a delicate Lemon yellow; and the Segments are long, obtuſe, wav'd at the Edges, and diſpos'd in a wild and irregular Manner, not as in many double Flowers, in a Number of Series. The Smell is ſlight, but not agreeable.

The Structure of the *Narciſſus* Flower we have deſcrib'd in a preceding Number; and the Student knows 'tis not in theſe double Kinds the Parts of Impregnation are to be ſearch'd, or Characters of the Claſs to be found.

With regard to the Variations ſeen in this State from Accidents of Culture, they principally regard the Colour. The Segments will be in ſome Flowers ting'd at the Tips, with an Orange Colour, or a rediſh Hue; ſometimes this Ornament will extend itſelf down the Sides of the Segments; and they are in other Caſes Orange-colour'd throughout.

This however is not pleaſing, nor indeed is any Variation from the true Lemon yellow ſo well as their keeping wholly to that Colour. As the general Tinct is thus in ſome Flowers deeper, it will be in others paler, than even this Lemon or ſtrawey Hue, but in this Caſe it is faint and lifeleſs.

Culture of this DAFFODIL.

Tho' we know the Stock from whence this Flower is deriv'd, it is one of thoſe Kinds not readily to be obtain'd from Seed. The uſual Way of propagating it is by Off-ſets from the Roots; and theſe are to be treated as we have directed for the other Kinds.

But tho' it is not eaſy to raiſe it from the common *Narciſſus* Seed, yet the Gardener who follows our general Inſtructions of ſowing the Seeds of a good Plant in that Species, and reſowing the Seeds of the beſt Flowers rais'd from thoſe, will not fail, amidſt the Varieties he ſhall produce from theſe ſeveral Proceedings, to ſee ſome of the true double *Lemon Narciſſus.* Theſe will be of various Degrees in Colour, and even the meaneſt full of Beauty.

6. PURPLE AURICULA.

Pl. 30. Fig. 6.

We introduce the Student here to a large Family, if he accounts the Gardener's Products diſtinct Members of it; and ſhall occaſionally give the Characters and Culture of the moſt eſteem'd Kinds.

In this Place we are to acquaint him with the Nature of the Plant; and the Origin of thoſe elegant Varieties. We have ſelected for that Purpoſe, a Species in which the Leaves and Flowers have their proper and diſtinctive Marks moſt conſpicuous, and from which Culture will be able, as a common Stock, to raiſe many of the others.

The Auricula, ſo ſpecious in our Gardens, is a native *European* Plant; and in its wild State is not without Beauty. Its general Aſpect is ſmall, and with a bending Head of a few yellow Flowers: where the Soil more ſuits, and other Accidents favour, the Flowers are larger and more numerous; they form an upright cluſter'd Head, and their whole outer Part is purple; only the Central Spot, or, as the Gardeners ſpeak, the Eye, retaining its original yellow.

It is in this State we deſcribe and figure it, the Form of its higheſt Perfection in the Field, and naturally its firſt Improvement from that State in the Garden.

The earlier Authors have conſider'd the yellow and purple Auricula as diſtinct Species, and call'd them *Auricula urſi flore luteo*; and *Auricula urſi flore purpureo*.

C. Bauhine, who calls them *Sanicula Alpina lutea*, and *Sanicula Alpina purpurea*, has his Followers.

Our Name Auricula, which Gardeners miſpronounce *Reclaſe*, and ſome ſpeak *Ericula*, is the firſt Word in the old *Latin* Term, *Auricula Urſi*, *Bear's Ear*; the Form of the Leaf giving Occaſion.

Linnæus joins the Plant, in all its Varieties, to the *Primula*, the Cowſlip Kind. He alſo reduces the yellow and the red to one Species, as no more than Varieties of Growth, and names the Plant *Primula foliis ſerratis glabris:* Smooth ſerrated-leav'd *Primula*.

The Gardener will be offended to ſee his favourite Family thus reduc'd to one original Species, and to the Condition of a Cowſlip; but in the Eye of Science, all will be found juſt. The Colour of the Flower, or Statelyneſs of Growth cannot diſtinguiſh Species; and, in declaring the two ſuppos'd diſtinct Kinds the ſame, and the Plant to have all the Characters of the *Primula*, Linnæus follows, with a juſt Preciſion, his own Method.

We have obſerv'd that the yellow Auricula is ſmaller; but no other Way, except in the Colour of the Flowers, different from this larger purple Kind.

The Root of this is a ſmall browniſh Head, hung every Way with innumerable Fibres, long, thick, firm, and whitiſh.

The Leaves riſe firſt in a thick Tuft; and while young, they appear round, whitiſh, and hoary.

As they ſhoot out more fully, they grow narrow at the Baſe, and loſe a great Part of that looſe Cottony Matter which gave them the Appearance of Hoaryneſs.

Full grown, they are very broad, rounded toward the End, of a blueiſh green, firm, fleſhy, and indented irregularly at the Edges: they keep the whitiſh hoary Aſpect on their under Surface; and the indented Rib along the Middle forms a long Channel on their Surface.

The Stalk is round, naked, perfectly erect, firm, thick, and five Inches high. Its Colour is a pale green, often ting'd with rediſh, and it is a little hoary.

The Flowers are large, beautiful, numerous, and regularly diſpos'd: they are plac'd ſingly on long Footſtalks, which riſe together from one Point at the Head of the main Stalk; and ſome ſtand erect, while others throw themſelves a little ſideways: the Whole forming a large Cluſter in an agreeable Diſpoſition.

Their Colour is a deep but glowing purple, and the Eye is yellow.

Let the Botaniſt now examine the Conſtruction of the ſeveral Parts; and the ſame Reſearch which ſhews the Claſs to which the Plants belongs, will alſo ſhew the Characters to be the ſame with thoſe of the *Primulæ*.

At the Top of the main Stalk, where the ſeparate Pedicles of the Flowers are inſerted, there is a kind of general Cup or Involucrum, form'd of ſeveral little Leaves. Each Flower has, beſide this, its particular and proper Cup: this is form'd of a ſingle Piece, and is tubular, rais'd by five Ridges along the Sides, and indented in five Places at the Rim.

The Body of the Flower is one Petal, tubular at the Baſe, and divided in the Edge into five Segments; theſe are expanded and obtuſe, and each has a heart-like Indenting at the Extremity.

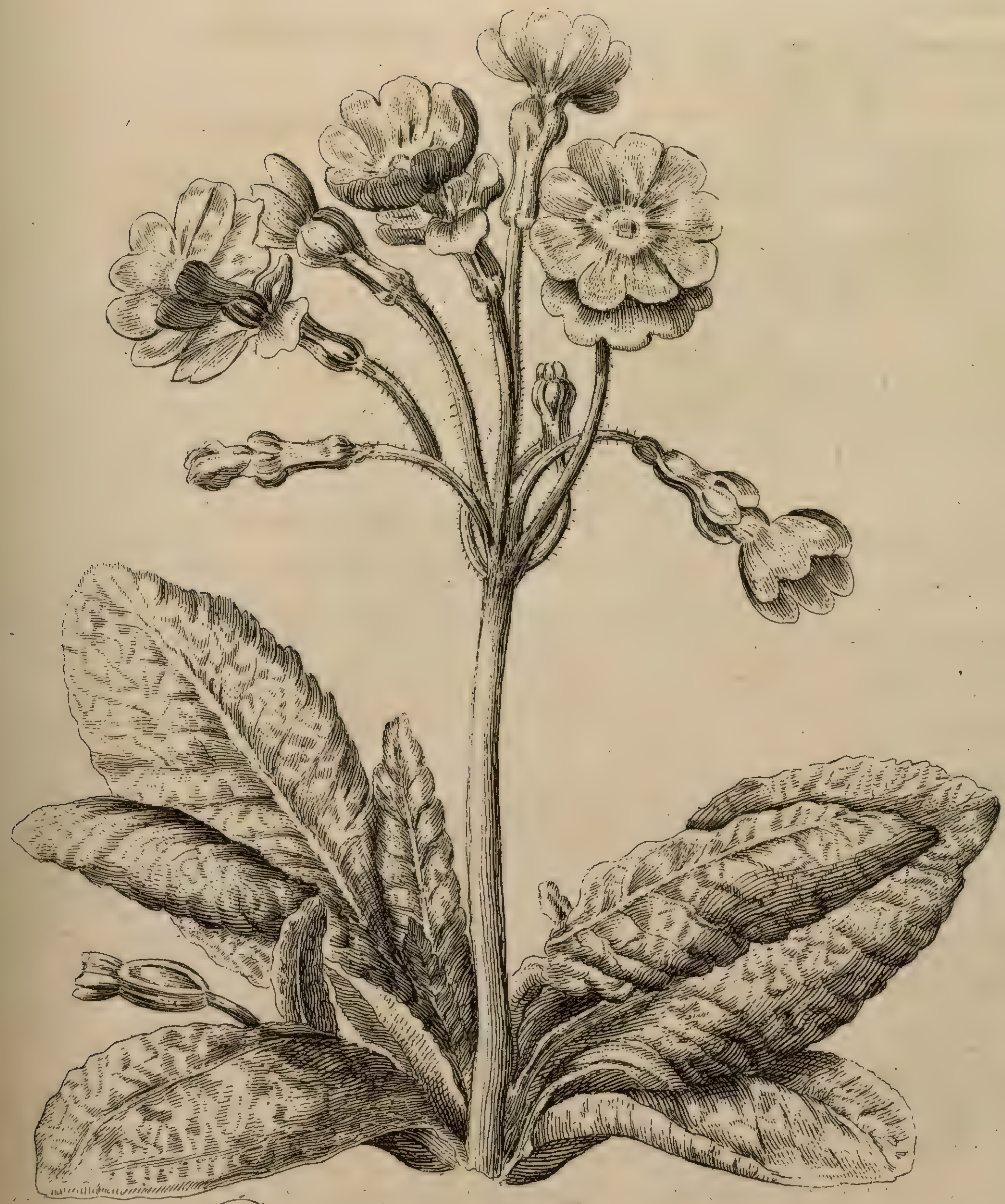
At the Top of the tubular Part ſtand five Filaments, in a kind of rounded Neck: they are very ſhort, but their Buttons render them conſpicuous: theſe are pointed, plac'd erect, and convergent. A ſingle delicate Style riſes in the Midſt, crown'd with a globular Top; and the round Rudiment from which it proceeds, ripens after the Flower is fallen, into an oblong Seed-veſſel, in which are many ſmall Seeds.

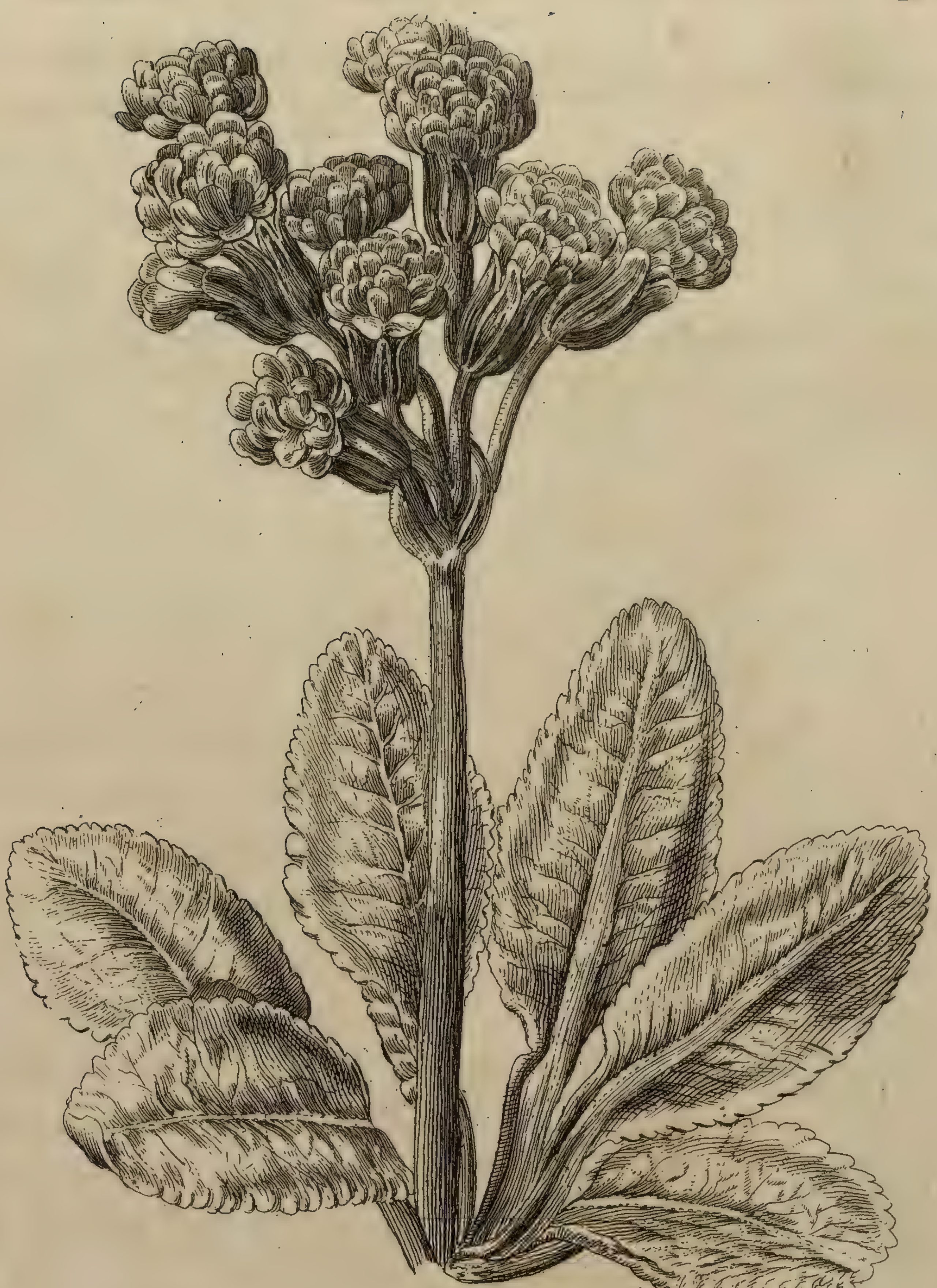
The Plant is thus found one of the *Pentandria Monogynia* of Linnæus; and by all theſe Marks a *Primula*, not a diſtinct Genus, nor demanding a ſeparate Name.

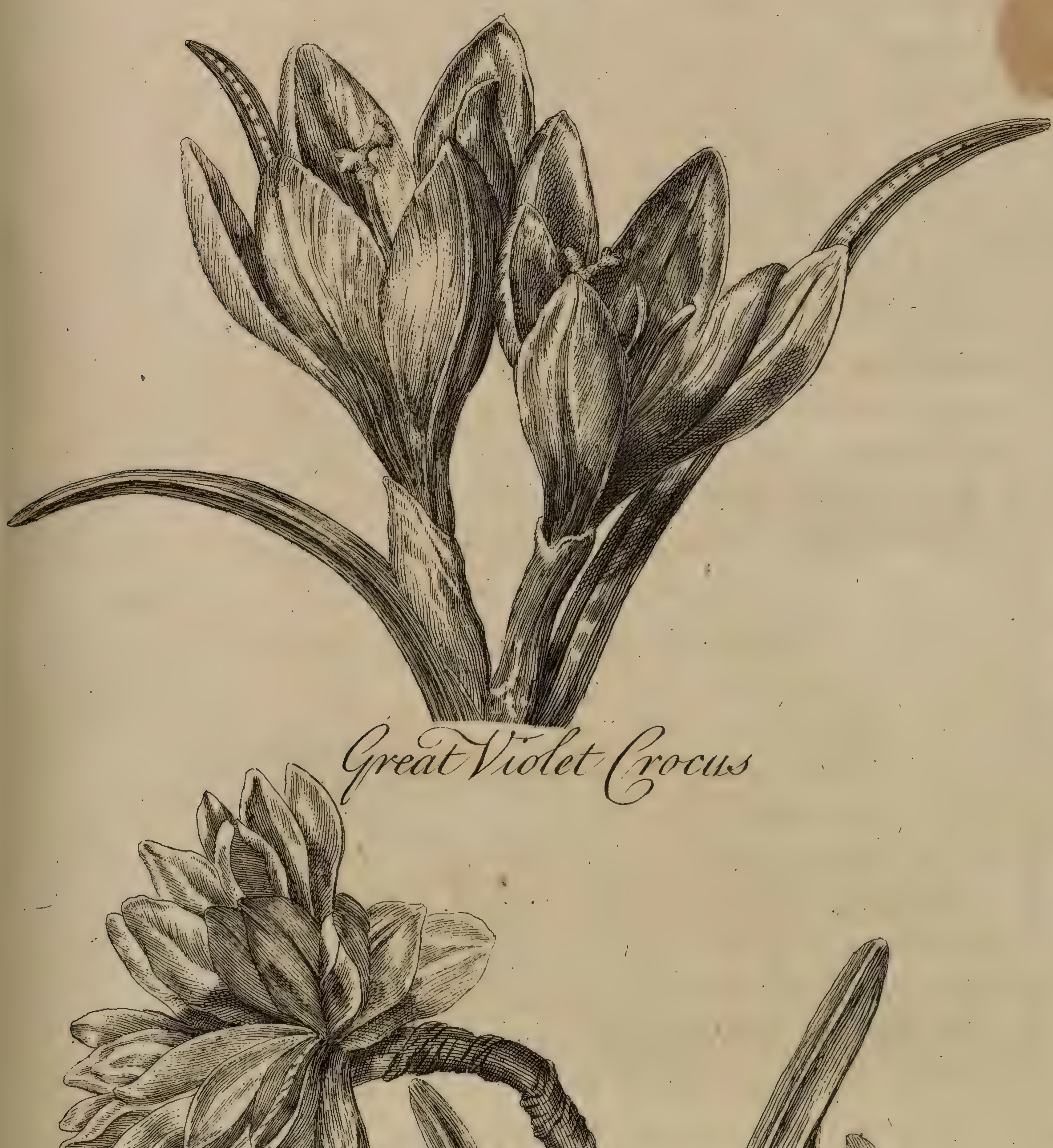
Culture of this Auricula.

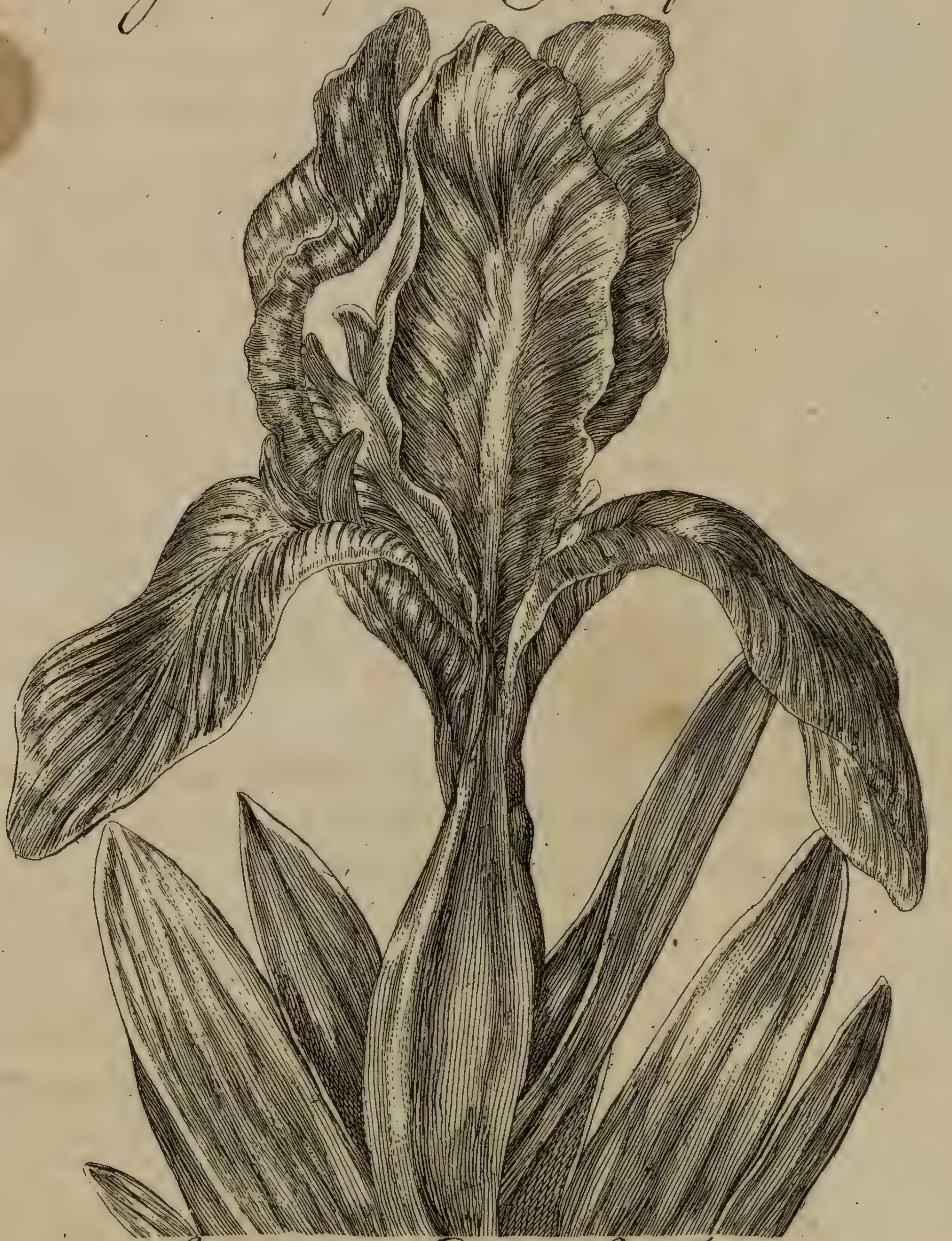
It is a Native of the mountainous Parts of *Europe*, where it thrives beſt in a mellow Soil, and a South-Eaſt Expoſure.

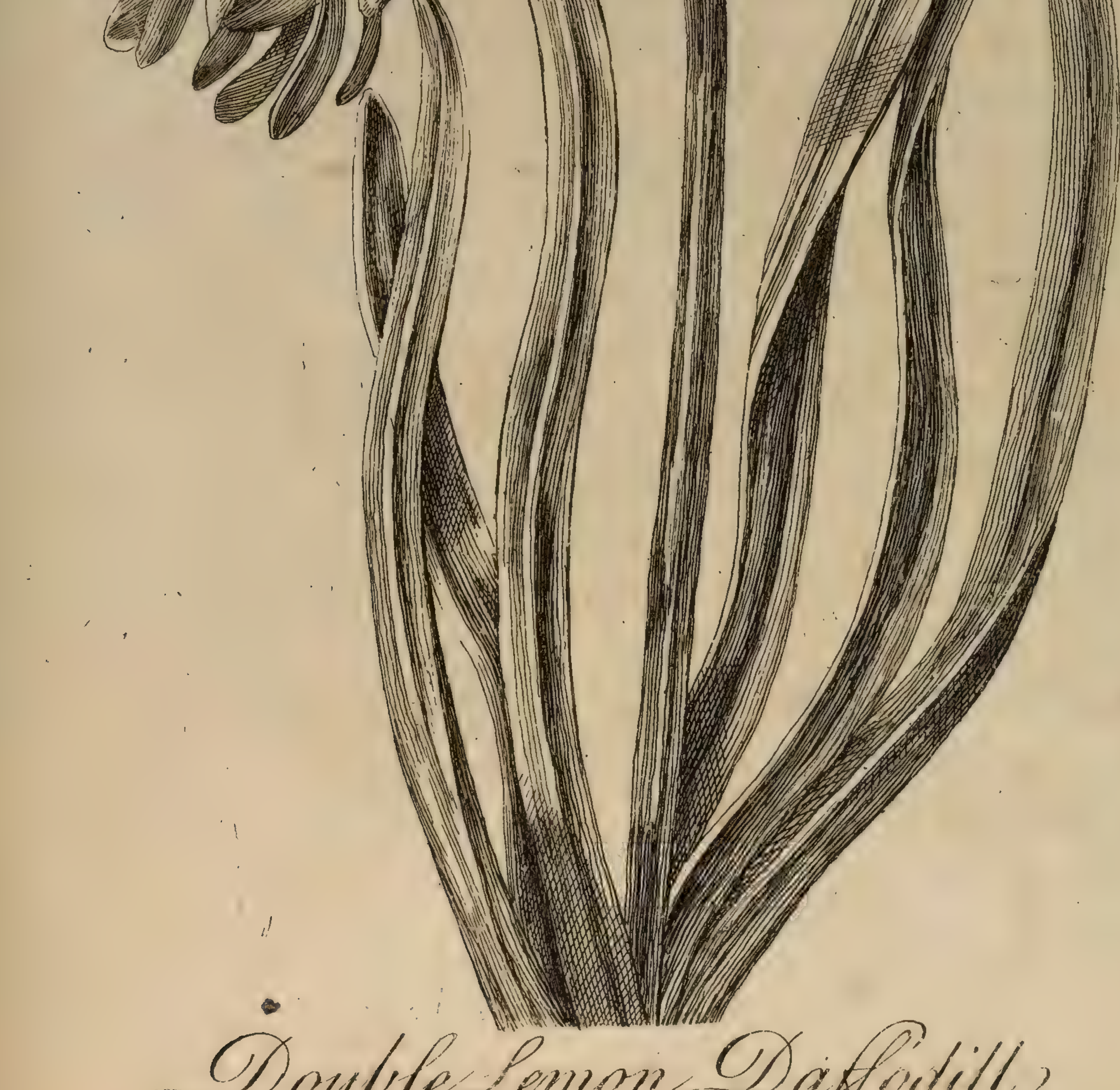
Pl: 30.

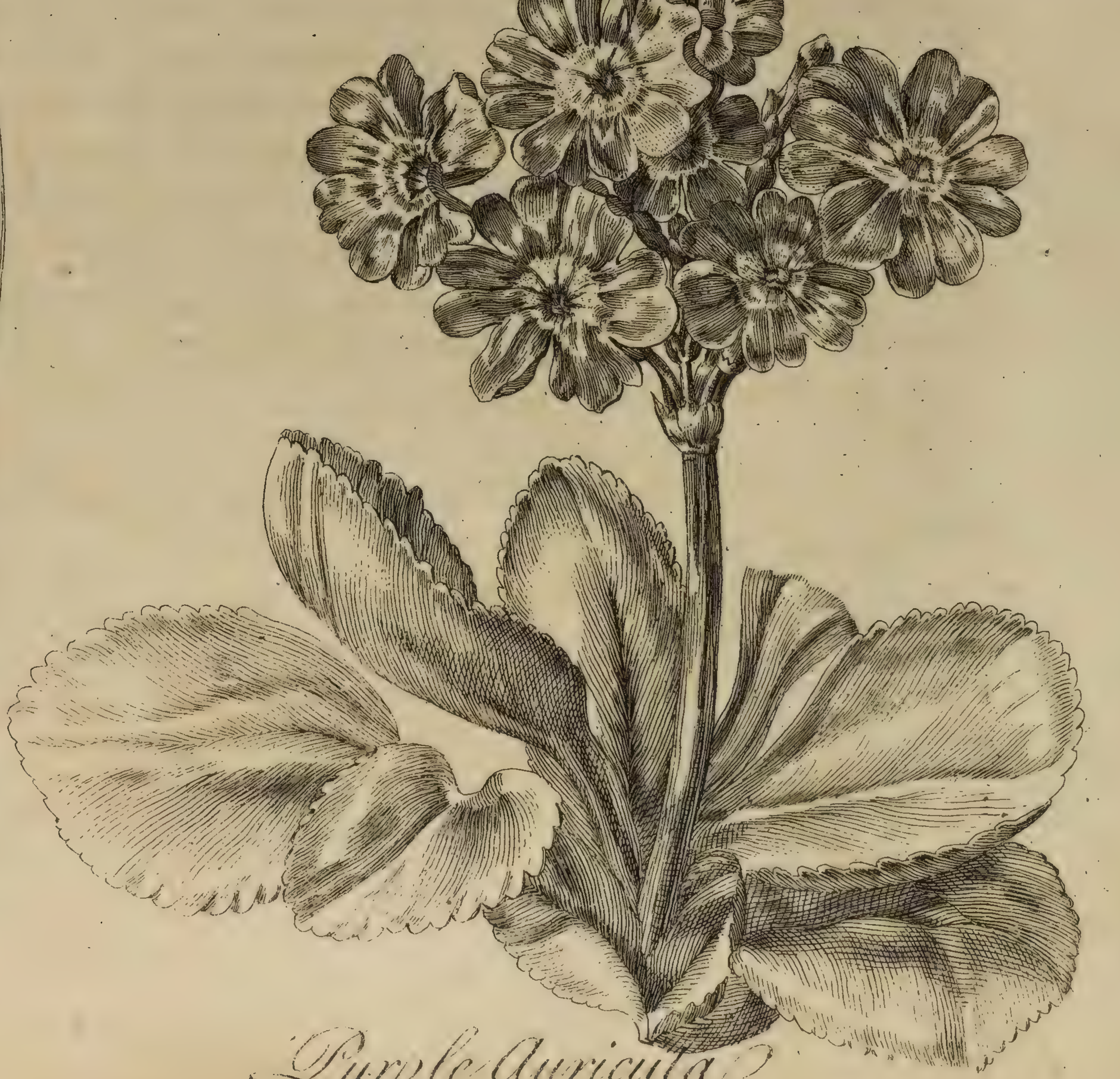

Proliferous Oxlip


Great double Cowslip


Great Violet Crocus


Austrian Dwarf Iris


Double Lemon Daffodill


Purple Auricula

The parted Roots will propagate it freely; and as the Soil is richer, and Weeds are clear'd away in Gardens, the Flowers will become larger this Way, and brighter.

Thus it will preſerve itſelf in the original Form, and thus it ſhould be kept in all good Gardens, to ſhew how Culture will by Degrees raiſe from it, as the original Stock, that infinite Variety.

Theſe are to be obtained, by ſowing the Seeds of this wild Plant, and afterwards thoſe of the beſt Flowers raiſed from it.

This we have treated of already, under general Heads, and ſhall in a ſucceeding Chapter, where we conſider the beſt Flowers raiſed from it.

But in all theſe Sowings, ſome will riſe plain, and they like the Parent Plant; and ſhould not be deſtroyed.

CHAP. II.

The Management of the Flower-Garden.

A Very elegant and eſſential Part of the Garden this Week demands Attention; that where the flowering Shrubs are planted with ſome Trees perhaps, and certainly with Roots of Flowers among them. Theſe Shrubs will now be ſtrong in Bud; and the firſt Shoots of the intermingled Flower-roots will be ſeen; the Ground therefore may have its laſt Cleaning, without Danger of deſtroying any Thing, and without diſturbing the Flower-buds, or young Shoots and Leaves of the Shrubs.

Let the Gardener take for this Work, the Morning of a bright Day, after a ſlight Night's Froſt. He will thus ſee every Shoot diſtinctly, and the Mould will be crumbly.

Let him clear away all Weeds, rake off all Rubbiſh, take away broken or ſtragling Branches; and break the whole Surface of the Ground, drawing up a little Mould about the Heads of the Plants, and round the Stems of the Shrubs.

The Advantages of this Practice, we have explained on former Occaſions, and they will now be ſeen moſt plainly.

The returning Warmth of the Air, the Moiſture of the Ground, and the vernal Strength of Nature encline all to growing ſtrongly, and this will be encouraged by the Breaking of the Surface, and cutting off the extreme Fibres of the Roots.

A Thouſand new Mouths will be not given by this to every Plant; the new broke Earth will allow free Paſſage to their tender Fibres; and Dews and Rains will be more perfectly blended with it, and better and longer detained among it, than if they had fallen upon a more hardened Surface.

We directed laſt Week, new Hot-beds for the tender Annuals, Amaranths, China-Aſters, and the like; theſe will have now acquired a due Heat, and the Plants muſt be removed into them.

The Evening of a mild, cloudy Day, is as advantageous for this Purpoſe, as for the tranſplanting in open Ground.

Let Lines be drawn lengthwiſe, and acroſs the Mould upon theſe new Hot-beds, at Diſtances proportioned to the Bigneſs of the Plants, and let them be carefully ſet in.

From this Time, they muſt have ſhading and watering, till perfectly rooted; and then they muſt be by Degrees hardened to the Air.

Let the Gardener chuſe the Evening of a dripping Day, and bring in this Week ſome of the flowering Shrubs, into Parts of the Garden where they are wanted.

The Ciſtus's and ſome of the Cytiſus's, particularly the ſmaller, ſucceed perfectly well at this Seaſon; and Phillereas, and ſome others may be alſo planted.

Let the Holes for theſe be large and well dug: the Roots taken out of the Ground without Injury, and ſpread carefully in the new Place, then ſnipped off at the extreme Ends of the Fibres: and the Mould thrown in: after this, let ſome thin Turf from a Common be laid round about the Stem, with the graſſy Side downwards; and let the Waterings all run thro' that. The Shrubs will be thus ſecured from Accidents, and ſet on ſpeedy Growth.

SECT. II.

The Management of the SEMINARY, *for this Week.*

THIS will be a proper Time for ſowing many of the *American* Trees, and let the Gardener prepare different Beds accordingly.

Let him dig up the Ground on each very well, and to a full Spade depth; and having levelled the Surface, ſcatter or plant the Seeds according to their ſeveral Kinds and Size.

The Lazarole, the Cock-ſpur Thorn, and many other of the Meſpilus Kind, may now be ſown: alſo the Tulip-Tree, the *American* Cypreſs, the *Perſimone*, and *Virginia* Walnuts.

The particular Rule for each Kind, we ſhall give in their Places, treating of the ſeveral Trees: here we are only to name the Work, and give the general Cautions.

Some Buſhes ſhould be ſcattered over the Ground, and Traps ſet about well baited for Vermin. Birds ſhould not be ſuffered to haunt the Beds; and when the Mould grows dry, it ſhould at Times be refreſhed by Waterings.

I have found this ſtrewing Buſhes over the Beds, to anſwer many Purpoſes: beſide the firſt Intention of Defence. It in ſome Degree mellows the Ground, and keeps off the ſcorching Sun-Beams; and if a few of the outer Twigs be limed, the Miſchief from Birds will be very much prevented.

As the Danger of ſevere Nights and deſperate eaſterly Blaſts, is now in a great Meaſure over, the Gardener may get to work upon the removing his exotick Trees.

Let him chuſe a Seaſon where there is a Proſpect of Rain, a damp Air, and a ſoutherly Wind; and let him begin with the hardier Kinds.

There is a great Advantage in getting them into the Ground in Time, but the Care muſt be not to ſubject them to too much Damage, in this endeavour after this Benefit.

Let the Earth be well opened, and the Mould broke to receive them, and let the Roots be carefully ſpread and covered: after this, let the Surface of the Ground, about and between them, be defended by ſome light Covering.

If eaſterly Winds come on unexpectedly upon this Plantation, let a Reed-hedge be placed to defend it; and if the Expectation of Rain have proved fruitleſs, let the whole Plantation be carefully watered every other Day.

This Care taken of thoſe ſomewhat hardier Kinds, which it was proper to plant firſt, let the moſt tender be kept in their Places, till the Weather is more favourable for removing them.

The Grafting of Hollies is another Buſineſs very proper for this Week, but it muſt be done with all poſſible Care.

The common plain *Engliſh* Holly is the Stock on which all the painted and variegated Kinds are to be grafted: and they are beſt ſuited to this Purpoſe at about five Years Growth in the Seed-Bed: and two after their firſt tranſplanting.

The thick and ſluggiſh Juices of the Holly make the Seed ſhoot ſlowly; and the young Trees grow alſo ſlowly.

If the Berries of the Holly be put into the Ground, when freſh gathered up from the Tree, they lie two Seaſons.

The common Cuſtom is to keep them in dry Sand a Year, and then ſow them in Autumn: but a ſmall Piece of Ground ſerves for a Seed Bed, and I have found by many Years Experience, that the beſt Way is to ſow the Berries as ſoon as gathered; more Trees are raiſed, and they are ſtronger. This is Nature's Method; and in the Pride of leaving her Courſe we commonly err.

When the young Plants have ſtood three Years, and have been two Years in the tranſplanted Beds, there requires no more Care than to get good Cuttings freſh, and in Order, and to perform the common Operation of Grafting, with due Care.

Let the Gardener now look over his Seed-Beds of the laſt Year, for the firſt Shoots of many of the Shrubs and Trees will appear.

He muſt cheriſh theſe, by drawing a little Mould about them, by clearing away Weeds, by gentle Waterings; and where they are of the tendererer Kinds, if the Nights prove ſevere, by ſome Defence or Covering.

This muſt be done with great Care; elſe in the preſerving them from the preſent Accident, they will be liable to many more, by being made too tender.

The beſt Way is, by a Frame of very high Hoops, and a Covering of Canvaſs, which muſt be taken off in the Morning, and all Air admitted, except the moſt ſevere.

If the Beds, where theſe are ſown, be open to the Eaſt; and ſharp Winds blow from the Quarter at this Seaſon, a Reed-hedge muſt be placed for the Defence of the young Plants.

They will very ſoon be out of Danger, for they are gathering Strength; and the Severity of Froſts and Winds is going off; but if neglected now, all the former Care is fruitleſs.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THE Buſineſs of one Quarter of the Ground is in many Caſes to be continued in another, for Nature is the ſame in all Things: thus what we directed to be done to the Hollies in the Nurſery, may be continued to the Fruit Trees of ſeveral Kinds; whether they be raiſed in a ſeparate Part of the Ground under that Name, or where they are to ſtand.

This latter Method, tho' tedious, has Advantages.

In either Caſe, the Method of Grafting muſt be the ſame as we have directed already.

The Time of tranſplanting Fruit-Trees is fully come, and we have directed it to be done, in Regard of many Kinds: the Plantation muſt be now finiſhed, or particular Cautions taken in the Delay.

It is not that the Trees will not take Root in the ſeveral ſucceeding Weeks, but they will be too forward in their original Ground.

The proper Period of Plantation, in this Inſtance is before their Shooting; and if the Places where they are to ſtand, are not prepared to receive them, the Trees muſt nevertheleſs be taken up, and laid in the Ground to be ready.

The Method is, to open a Hole, large and deep enough, and pruning the Roots, to lay them in Sideways in a ſlanting Direction: their Stems muſt be alſo covered with dry Straw.

They will thus continue ready for planting; and when the Holes are opened, their extreme Roots muſt be trimmed again, and the Mould well mixed among them. They will ſhoot very freely, and ſcarce any Time or Advantage will be loſt by the Delay.

Finally, if there be any Article left unfiniſhed in the Pruning, let it now be compleated, for there will be no medling in that Way afterwards.

The Fig-Trees which we have directed to be preſerved againſt the Froſts of Winter, will now begin to bud, and they muſt be watched; for the earlier improper Shoots are diſplayed the better.

Theſe Trees will, after the Management we have directed, be now preparing their Buds for ſhooting; and of theſe the fore-right and ill-placed muſt be rubbed away as they appear.

The training and Management of the Tree is alſo now to be conſidered; which, to be underſtood diſtinctly, we ſhall trace from the Original.

The new planted Fig-tree has its three Branches, or its three Buds, for ſhooting out ſuch Branches, which riſe in an oblique Direction. In the due Courſe of Management, the fore-right and ill-placed Buds being rubbed off, each of theſe three Branches in another Year is again parted into three; one ſide Shoot being each Way produced, and ſuffered to remain: Theſe are ſtrong and well ſupplied, becauſe the diſplacing of the other Buds, gives theſe all the Nouriſhment.

After this the great Care is to encourage them to a due Length, and to lay them in a proper Direction.

They are to be carried each Way from the main Stem, in nearly an horizontal Direction; but he would be very raſh who ſhould lay them into that Form at firſt.

We have obſerved before, that the Courſe of Nature is to ſhoot upright, or at the leaſt oblique in the Branches; that ſo long as they remain in this Direction, they will continue growing in Length, but they will grow very little afterwards at the Ends, when once laid flat and horizontal. On this depends entirely the preſent Conſideration of training the Tree.

Let the Gardener conſider what Extent of Wall he intends to cover with his young Fig-tree, when it ſhall have arrived at its due Growth. This being mark'd upon the Wall by a ſtrong Line, let him permit theſe two ſide Shoots to grow in an oblique aſcending Direction, till they will reach within eight Inches of the Mark each Way, when laid flat. Then is the Time to lay them horizontally. Let them be brought down very nearly to the Level of the Bud, and thus nailed carefully without bruiſing. They will now encreaſe very little, and that very ſlowly in Length; but the ſame Juices that ſhould have lengthened the Branch, will ſend up new Shoots from its upper Side, nearly in an erect Poſture. Theſe are to be the bearing Branches; and this Poſition is to be favoured: as many are to be left on as will cover the Wall, and by a careful nailing, they will be kept eaſily in their upright Growth, and at due Diſtance.

This is to be the Managmeent of the two ſide Branches; and the middle Shoot, or main Stem, will furniſh a new Proviſion of Branches at a proper Place.

When this has reached the due Height of the upright Shoots from the firſt laid Horizontals, it muſt be ſuffered to ſend out two ſide Branches, as the young Tree did at firſt; and theſe, when they have acquired a due Length in their natural oblique Direction, muſt be reduced to Form, as the others. This is the general Syſtem of Management of the Tree.

It is a Practice with many to take off the Ends of the healthy Shoots in Spring: and ſome who value themſelves upon the Management of this Tree, declare for ending of the young Shoots in *June:* The Intention of this is to procure bearing Wood for the ſucceeding Seaſons; but that is better done by encouraging the Buds of the horizontal Branches. If none appear where they are wanted, I have found the cutting a ſmall Slit croſs-ways into the Bark, always produces them.

When the young Shoots are at moderate Diſtance, they will produce nearly as many Figs as Leaves. When the Figs toward the upper Ends of the Branches are but juſt appearing, the Leaves on the lower Parts will fall off, and the next Spring ſhews Fruit in the Places whence the Leaves fell.

Theſe, and thoſe which were ſo ſmall in Autumn, ripen favourably the next Summer. Such as were larger at that Time, generally periſh by the Froſts. This gives the Rule of Pruning, and may tend to explain the Method of Fructification in the Fig-tree; not ſo well underſtood at this Time as ſome may imagine.

* * *

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

WHATEVER Cauliflower Plants are now remaining in the Winter-beds, muſt be planted out; and for this Purpoſe the Ground ſhould be well broke; a little well-rotted Dung from an old Melon-bed dug in, and all Care taken of the Plants, that they may root quickly, and not feel too much the Check of this Removal. The Earth muſt be drawn up to their Stems; and they muſt have frequent Waterings, unleſs Showers render it unneceſſary.

A ſmall Crop of Carrots may now be properly ſown upon a Piece of rich, free, and perfectly looſe Soil. They will grow quickly to a Size, and be very delicate.

Onions ſhould be again ſown; and ſome of the Kitchen Garden Plants of ſlighter Service, Burnet, Chervil, Bugloſs and Borage.

Sow Marygolds and Spinach at the End of this Week, and at the ſame Time *French* Sorrel.

Plant Winter Savory, and other of the hardier Kinds that grow from Slips; allowing them ſome rich Pieces of the Ground under Shade and Shelter. They muſt be watered till they have taken Root; and when they are ſtrong, and have made ſome Shoots, they muſt be removed with Balls of Earth into their Places.

Sage and Roſemary, Hyſſop, and moſt of the aromatic Plants, may be treated in the ſame Manner.

Many of theſe may be conveniently raiſed alſo from Seeds; but this is the ſhorter Method; and there are ſome that muſt be planted this Way, their Roots ſtriking freely, and their Seeds ſeldom ripening. Mint, Baum and Penny-royal are of this Kind, and theſe, as they root freely, and ſpread quickly, ſhould be put in where they are to remain: The Soil ſhould be moiſt and rich.

Plant out Lettuces which were ſown in Autumn, and have lived thro' the Winter in warm Borders: Give them a free Soil, and a good Expoſure: Water them often, and ſee for Slugs in Mornings and Evenings: They will be elſe devoured before they are rooted.

This Week is very proper fot the planting of new Aſparagus Beds; for the Roots are now juſt ſhooting, and they never ſtrike ſo freely, or take ſo kindly, as when planted at that Period.

The Beds muſt be very carefully prepared for them, and the Planting muſt be attended to in a due Manner, not ſlighted, as is too cuſtomary.

They muſt have little Water for the firſt Weeks afterwards; but when the Buds are form'd in the new Ground, they ſhould have ſomewhat more.

Let all the young Crops of all Kinds that are now ſprouting from the Spring ſowing, be kept very free from Weeds. Theſe muſt be taken up by Hand, among the ſmaller Kinds; but where the Plants are larger, and they are to ſtand more diſtant, the Hoe will ſave a great deal of that Labour.

Dig up a Bed of rich Earth, and ſow Purſlain. It muſt be well watched when the Plants firſt appear, for a little Neglect will deſtroy it all. The Slugs are very fond of its firſt Leaves; and a little Sun, if watering be neglected, will burn them up, till they are better rooted.

The large Peaſe ſhould now alſo be ſown for a full Crop.

E D E N:

A

COMPLEAT BODY of GARDENING.

NUMBER XXXI.

For the Middle of *APRIL.*

SECTION I.

FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.

Flowers and curious Plants now in their Perfection.

1. The EMBROIDERED TULIP.

April.

Pl. 31. Fig. 1.

WE have already ſaid ſo much of the Tulip Kind, that our Student will be in no Danger of ranking every Variety as a Species.

The Creatures of the Gardener's Art are in no Flower more numerous: but the original Plants from which they are rais'd are few. Thoſe which flower early have their Value thence; even tho' there were little of the general gaudy Colouring to recommend them; but this has more than ſuch Claim, to the Regard of the Floriſt.

The early Tulips in general are ſhort in the Stalk, and have the Flower ſmall: this, though it does not equal many of the later Kinds in thoſe Reſpects, is of a middle Character in both; as much above many of the early Tulips, as below ſome of the later; and its Flower has a very bold and lively Colouring.

We have ſpoken of the indeterminate Nature of the Gardeners Names for Tulips; they are indeed worth little Notice; the Peculiarity of this is well expreſs'd by the Term *Embroidered*, the ſecond Colour being ſo laid on in that Manner, that the moſt vulgar Eye will ſee the Propriety of the Expreſſion.

The earlier Writers have call'd it *Tulipa pumila*, and *Tulipa bicolor*; the low Tulip, and the two-colour'd Tulip: but theſe ceaſe to be Diſtinctions, now the Varieties are ſo multiply'd.

April.

LINNÆUS refers it to his ſecond Species under this Head, *Tulipa ſcapo triphyllo foliis ovato-lanceolatis:* Tulip, with oval lanceolate Leaves, three on a Stalk.

This laſt Character however is uncertain: he has retrench'd it from the ſpecific Name in his lateſt Works, and adds in its Place, *flore erecto*, with an upright Flower; the Flower of the wild yellow *European* Tulip drooping.

The Root is bulbous, ſhort, fleſhy, and ſwelling out at the Bottom. The Colour is brown, and the outſide Skin is often woolly. The Subſtance of the Root is firm, white, and juicy; and from its Baſe run a few ſlender Fibres.

The Leaves are long, but they have a conſiderable Breadth, and are ſharp-pointed: they are fleſhy and of a freſh green, with a light Tinge of blueiſh.

The Stalk is fourteen Inches high, round, tolerably upright, and a little downy: its Colour is a pale green, and it is uſually ſtreak'd with red. There are uſually three Leaves on it, but this is not certain: they are of the ſame Shape with thoſe from the Root, and are covered with a greyiſh Duſt.

One Flower terminates the Stalk, and it is a very fine one; the Ground Colour is yellow, and on this is laid a vaſt deal of Crimſon: this is not thrown in Blotches, as in many Kinds, but ſpread out naturally in a kind of Rays, as if laid on by Art; the Work of a Needle.

Thus much is certain and invariable in this Tulip, but a great deal of accidental Change is ſeen in it. The yellow is ſometimes as pale as Lemon-Peel, ſometimes perfect gold; and tho' the Red has always the ſame Crimſon Tinct, it varies in Degree from very pale to very deep.

Hence ariſe thoſe numerous ſeminal Variations of this Plant, which is itſelf no more than a Variety from the original Species we have juſt nam'd; yet theſe are all diſtinguiſh'd by Gardeners Names, the Titles of their Maſters, or the coarſe Rovings of their Fancy.

As the Colouring in this Flower is very fine, Nature has ſhewn it alſo to great Advantage, and in a very agreeable Succeſſion. The Cold of the Seaſon, in which the Flower firſt makes its Appearance, prevents it from opening in haſte, or ſoon loſing its Beauty.

The Colours firſt ſhew themſelves on the Outſide of the unopen'd Flower, and are faint in this Appearance; by Degrees they glow with much more Life and Spirit; and when we have many Days admir'd them in this State, the Petals ſeparate: we ſee into the Flower; and we think lightly of the outſide Streaks and Bluſhes, from Compariſon with the embroidered Tincts within.

It opens ſlowly, and the Colours glow more intenſely as the Flower admits the Sun and Air: at length the Petals ſpread themſelves wide aſunder, and for a Week longer we have the full Diſplay of the higheſt Colouring. After this, the Shades and Lights loſe themſelves; the Colours grow faint; and the Flower ſoon after fades. Its Duration is very conſiderable; I have ſeen it in the ſeveral Stages of Beauty, a Month.

The Characters of the Tulip we have had Occaſion to name already; and they are in no Species or Variety more obvious or diſtinct than in this. Six very long and large Buttons ſhew themſelves in the Centre, and refer the Plant to the *Hexandria*; and in the Midſt of them appears a large three parted Stigma, or Head, which being ſingle in the Body, and fix'd upon a ſingle Rudiment of a Seed-veſſel, declares it one of the *Monogynia*.

The Filaments are ſhort, though the Buttons large; and this Stigma has no Style: but we have told the Student, that theſe terminating Parts are to be counted, and the Buttons and the Stigma remark'd for Characters, when thoſe ſlender Parts which naturally ſupport them, are deficient or inconſpicuous.

The reſt of the Tulip Character conſiſts in the Flower having ſix Petals, and no Cup, and the Seed-veſſel being three-ſquare, long, and divided into three Cells, with flat Seeds, ſeparated by chaffy Fragments in a double Row.

Culture of this TULIP.

The Management of this Tulip muſt be the ſame in general with that of the other earlier Kinds of which we have ſpoken; and it will be explain'd more at large in a ſucceeding Number devoted to the Tulip Kind.

What is particularly to be regarded in the Culture of this elegant Flower, muſt be to give it a Situation where it is defended from the rough Winds, but has not too much Sun; in this we conſult the long Duration of the Flowers; for the Sun makes them fade.

The Gardener needs not to fear its ſuffering for want of the genial Influence of that common Parent of Flowers; for Experience in our own Gardens, and elſewhere, what we have ſeen, and what we read, jointly declare that it defies the Cold.

I have try'd the Experiment between a warmer and a more ſhady Bed; and have found the Flowers, where there was more Sun, faded ten Days ſooner than thoſe in the Shade; and that the Colouring was better in Proportion as there came leſs full Sun upon the Bed.

In the more Northern Parts of *Europe* no Species flowers ſo well. There is a great Variety of this Kind in *Ruſſia*; and the Multitude of fine Tulips in the common Gardens of *Denmark*, are principally from this Stock. Theſe were the Tulips mention'd by Mr. HENSHAW, in his Obſervations on *Denmark*, which the Public owes to Dr. BIRCH, more faithful than nice in his Collections *.

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* *Hiſt. of Royal Society.*

2. CRIMSON DAPHNE, called MEZEREON.

Pl. 31. Fig. 2. We give the Gardener's Name, that he may know we mean the elegant and ſpicy Shrub with which he is ſo well acquainted; but we remind him firſt of its fitter Title.

The Name *Mezereon* is given only this Species and its ſlight Varieties; and it would thence ſeem, if left unexplain'd, that there was no other ally'd to it in Genus; but later Reſearches ſhew they are many.

The *Mezereon*, held diſtinct by leſs accurate Writers, is now known to be of the ſame Genus with the *Laureola* and *Thymelæa*: Linnæus therefore has connected it with them under one common Head; and taught thoſe who would ſpeak with Accuracy, to call it *Daphne*.

The earlier Writers were acquainted with it; for its glowing Colour, and its early Flowering, its Profuſion of Bloom and ſpicy Sweetneſs could not be overlook'd by any who caſt the moſt ſlight Glance upon this Part of Nature.

They have call'd it *Laureola folio deciduo*, and *Laureola fæmina*: Female Spurge Laurel, and Spurge Laurel with deciduous Leaves; alſo *Chamelæa Germanica*, and *Mezereon Germanicum*.

Our Gardeners know it by the Name *Mezereon*, adding Diſtinctions according to the Colours of the Flowers and Berries; for there is in this light Matter great Variation.

Linnæus adds to the Generical Name, *Daphne, floribus ſeſſilibus ternis caulinis, foliis lanceolatis deciduis*: *Daphne*, with Flowers plac'd three together, without Footſtalks on the Branches, and with ſpear-pointed deciduous Leaves. A Name conveying a Deſcription.

It is a ſmall Shrub of wild Growth, but of conſummate Beauty: the Height is three or four Foot; and the Gardener's Care ſhould be employ'd to make it ſend it out numerous Branches, which, as they naturally ſtand oblique and pointing upwards, will make that Way a moſt agreeable Figure. This is worth Conſideration; for the Flowers, covering the Branches in this Shrub, not hanging from them as in moſt others, will be vaſtly more conſpicuous as thoſe Branches are better train'd.

The Roots are long, ſlender, whitiſh, and tough.

The Bark of the main Stem is brown, irregular, and rough: that on the Branches is paler, and has a Tinge of greyiſh; but it is not leſs uneven on the Surface, naturally riſing in little Lumps.

The Wood is white, and the under Bark is green; and there is a cottony Matter among its Foldings.

The Flowers appear early, and the Leaves come forth afterwards. The State of greateſt Beauty is when the Flowers alone appear: they, in this Caſe, ſurround the Stalk regularly, and cover it in all Parts for a conſiderable Length; but the Leaves do not begin to ſhew themſelves till ſome of theſe are fallen.

The Flowers are not very large, but their Number and Luſtre render them conſpicuous. Their Colour is naturally a very elegant Crimſon, darker on the Outſide than within, and there paleſt toward the Centre; where, in a little roundiſh Opening, ſtands an irregular Knob of gold Colour, with a ſlight Tinge of Orange. This is form'd of the Buttons, whoſe Number we ſhall examine preſently, with the particular Form of the Flowers: here we deſcribe the Cluſter.

This Spike is five, ſix, or more Inches in Length, and an Inch in Diameter; ſo thick cluſter'd with Flowers, that it appears one Body when ſeen from any little Diſtance.

This is its moſt perfect Condition; and in this State, when in full Flower, the Scent is in the higheſt Degree agreeable. It has the Perfume of the Syringa; with the ſpicy Fragrance of the Clove.

At Evening the Scent is freſheſt of all; and when, in my own Garden, I have kept a double Row of theſe Shrubs, manag'd as I ſhall here direct, and have walk'd among them in a mild Day at Sun-ſet, the Air, fill'd with their Exhalations, has reminded me of the ſpicy Gales of *Arabia*, which Sailors ſay they perceive as they approach that Coaſt.

Variety of Colour pleaſes, in our Gardens, even where the Change is for the worſe: we therefore nurſe with Care the pale red-flower'd *Mezereon* and the white, ſucceeded by yellowiſh Berries. Theſe have leſs Fragrance as well as leſs Beauty; nor is the ſtrip'd-leav'd Kind worth Notice, for the Flowers are the Perfection of this Plant; and no Leaves appear with them while they retain full Glory.

As the Flowers decay, the Leaves burſt forth from the Tops of the Branches; and, in ſome Parts from the Sides, they riſe in Cluſters from the ſame Knot: they are oblong, pointed, undivided at the Edges, ſoft to the Touch, and of a very beautiful green.

The Situation of the Flowers has ſome Singularity: they riſe from a kind of Buds or little Swellings, which ſtand at very ſmall Diſtances all round the upper Part of the Branches.

Three Flowers naturally riſe from each Bud; but this is not invariable: I have found only one from ſome, and from others four or even more.

They have no Footſtalks; but the Baſe of each is plac'd immediately upon the Bark of the Branch, defended by the little ſcaly Films of the Bud, which in ſome Meaſure, tho' irregularly ſurrounding and defending the Flower in that Part, have the Aſpect of a Cup. The Scales are brown and oval, and the Subſtance of the Bud is green between them.

The Flower therefore has properly no Cup; it is form'd of a ſingle Petal, whoſe lower Part is a Tube of a cylindric Form, and imperforated at the Baſe: the upper Part is compos'd of four large oval Segments, which are wide expanded, and in the Hollow at their Centre ſtands the golden Head, form'd of the Buttons of four Filaments, which reach up to the Top of the tubular Part: a little lower, within the Tube, are ſeen four others, plac'd between the Filaments, ſupporting theſe; ſo that the whole Number is eight: they are all inſerted into the Sides of the Tube; and in their Midſt appears a ſingle Stigma, or rounded Head, placed, without any intermediate Style, upon an oval Rudiment; which afterwards ripens into a roundiſh Berry, with one Seed.

The eight Filaments (for Linnæus does not regard their Difference in Height) place this among the *Octandria*, in the Eighth Claſs; and the ſingle Stigma ſhews it one of the *Monogynia*.

Culture of the Crimson Daphne.

The Shrub is Native of *Europe*, even of the Northern Kingdoms, but we have it not wild in *England*. *Germany* abounds with it in Foreſts on the Sides of Hills, where there is a deep Soil, Shade from the Noon Sun, and ſufficient Moiſture.

This muſt be the Gardener's Rule for cultivating it here.

Let him chuſe a Spot in the Garden where the Ground is riſing, open to the South-Eaſt, and where there is Shade againſt the full South Sun.

Here let him dig out the Mould, and throw into its Place the following Compoſt:

Mix two Barrows of rich Garden-Mould with one Barrow of Earth from a loamy Paſture; and add a Buſhel of rotted Cow-dung, and half a Peck of Soot.

When theſe have been well mix'd and expos'd to the Weather four or five Months, let the Place be fill'd up with them, and the Surface rak'd even.

Let the Gardener mark ſome ſtrong and healthy Shrub of the *Mezereon* that bears long Spikes of Flowers, and thoſe of a ſtrong Crimſon.

Let him preſerve the Berries, which follow theſe, from Accidents; and when they will freely quit the Stalk, take them off. Let him carefully rub out the Seeds, and ſpread them thin upon a paper'd Shelf. Let them lie there ten Days to harden, and then ſcatter them thinly over the Bed.

The Berries will ripen in *July*, therefore this Sowing will be early in *Auguſt*. Let a Quarter of an Inch of common Garden Mould be ſifted over them; and, ſtrewing on a few Pieces of Hawthorn Buſhes, leave all to Nature. In Spring the young Plants will appear, and there will be Abundance of Weeds among them.

The Buſhes muſt be taken off, the Weeds carefully pick'd out by Hand; and, when the young Plants ſtand too thick, the weakeſt of them muſt be pull'd up, and the reſt left at eight Inches Diſtance.

The Ground being looſen'd by taking up the Weeds, a gentle Watering will penetrate very freely: this muſt be given in the Morning, two Hours after Sun-riſe, and repeated occaſionally.

They will now require only the common Care of being kept clear from Weeds, and now and then water'd. They will thus take their Growth naturally and freely; and here the fineſt are to be left to flower. The weaker Shrubs muſt be taken up the ſecond Year; and thoſe intended to remain muſt be left at four Foot Diſtance.

3. YELLOW PAINTED IRIS.

Pl. 31.
Fig. 3.

The *Iris's* are a vaſt Store of Beauty and Variety for the Gardener; and this is one of the moſt pleaſing. The Varieties rais'd by Seed have been too freely admitted to ſwell the Account of Species, but this is not one of that Number: it is truly diſtinct, and it was early known to be ſo.

The old Writers call'd it *Iris tenuifolia verſciolor*; and *Iris anguſtifolia minor*.

Linnæus, in the Place of theſe indeterminate Names, has given it one expreſſive of the Characters by which it is diſtinguiſh'd from all the other *Iris's*, and therefore worthy to be preſerv'd for ever: this is *Iris corollis imberbibus, germinibus trigonis, caule tereti, foliis linearibus:* Round-ſtalk'd *Iris*, with narrow equal Leaves and beardleſs Flowers, with three-corner'd Rudiments.

It is an upright ſpecious Plant; and even in the plain Colouring given it by Nature, would be call'd handſome; but under the Acceſſion of new Dyes from Culture, very few excel it.

The Root is irregular and ſpreading, blackiſh, juicy, knobed, and full of long tough Fibres.

The Leaves are long, narrow, and of a pale green, with ſome little Tinge of greyiſh.

The Stalk is round, upright, firm, not very thick, of a whitiſh green, and toward the Top paleſt. The Leaves on this are few, of a greyiſh green, pointed at the End, and of a firm Subſtance.

The Top of the Stalk is cover'd with three, four, or more Flowers, which open in Succeſſion, and have a great deal of Elegance.

They conſiſt, as thoſe of the other *Iris's*, each of ſix Petals, three of which turn down, and three ſtand upward. In the State of Nature, the three Petals which turn down are yellow, vein'd a little with purple; and the three which ſtand upright, much more deeply clouded with that Colour; but in Gardens, the Variety of Colouring is endleſs.

In the moſt perfect and elegant State, the three Petals which fall down, are of a fine yellow, tho' not without ſome Tinge of brown, and they are veined with the moſt glowing violet purple: the three upper Ones have the ſame ground Colour, but they are clouded and painted with a more lively purple; in a wild and pleaſing Irregularity.

Nature ſports and wantons without Bounds, in the Diſpoſition of theſe Colours: and there are three other broad Parts, reſembling ſmaller Petals in this Flower; which tho' naturally pale, will receive alſo from Culture various Degrees of Colouring.

To explain theſe, we need refer only to the Characters of the Iris Flower, laid down in a preceeding Number: this Species ſhews the ſame.

In the Place of a Cup, there are a few vague and light Films: the ſix Petals, various in Form and Diſpoſition, are united at their Baſes: the Filaments are three, and they lie upon the Petals, which turn down; and from the Rudiment, which ſtands below the Receptacle of the Flower, riſes a ſingle, and very ſhort Style, crowned with a vaſt Stigma, divided into three broad Parts; theſe are the Baſtard Petals of which we are treating.

The Claſs of the Plant is obvious in this Examination: the three Filaments refer it to the *Triandria*, the Third in the LINNÆAN Syſtem, and its ſingle Style ſhews it one of the *Monogynia*.

Culture of this IRIS.

The common Way of propagating this Plant, is by parting the Roots; but the Gardener who values himſelf upon his Art, ſhould always raiſe it from Seeds. The Method we ſhall lay down at large in a ſucceeding Number.

The Time for parting the Roots, is when the Leaves begin to change Colour, which is uſually in *Auguſt*.

The Pieces ſhould not be too ſmall; and they ſhould be planted in a ſhady Border, at two Feet and a half Diſtance, and watered often.

The Bed ſhould be ſhaded from the Noon-day Sun, but open to the Eaſt, that it may have its Influence in the Morning, and the beſt Soil is an equal Mixture of rich meadow Earth, and Pond-Mud.

We ſhall in a ſucceeding Chapter lay before the Reader many other beautiful Flowers of the Iris Kind; and take that Occaſion of delivering the Method of managing them from Seed together.

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4. DUSKY FRITILLARY.

Pl. 31. Fig. 4.

We ſhall have Occaſion to explain hereafter, many of the Fritillaries to the curious Reader, but this for its peculiar Aſpect, and early Flowering, demands a ſeparate Notice. Tho' far from the moſt elegant of the Kind, it is to the attentive Eye, full of a ſingular Beauty; and it preſerves this longer, than moſt of the more ſpecious Flowers.

It is one of the many Varieties we ſee from the common Fritillary Stock, and to that original Species, the Student is to refer it.

The Authors who have conſidered it as a diſtinct Species, have called it *Fritillaria flore ex rubro purpureo*, and *Fritillaria purpuro fuſca*. LINNÆUS characteriſes the Species to which it belongs, by the Name *Fritillaria foliis omnibus alternis*; diſtinguiſhing it by this Name, Fritillary, with all the Leaves placed alternately, from the ſmall flower'd *Pyrenæan* Kind, in which the lower Ones ſtand in Pairs: the Varieties from this latter Species are ſingular, tho' few; thoſe from the other, which C. BAUHINE calls, *Fritillaria præcox purpurea variegata*, are almoſt innumerable, when produced from Seeds.

Some Plants of this duſky Kind uſually riſe among them, and they ſhould be ſeparated and preſerved with Care. The Plant in this Condition, makes but a poor Appearance among the gaudy Colours of the more uſual Varieties; but in ſome other Place, it will be conſidered more according to its Worth.

The Root is a ſolid Bulb, divided into two Parts, whitiſh and juicy; and furniſhed with a few white Fibres.

The Stalk is round, upright, firm, and ten Inches high; toward the Bottom, it is purpliſh, upwards, of a pale green; but often ſtained a little with red, at the Inſertions of the Leaves. The Top droops with the Weight of the Flower.

The Leaves are uſually four: They ſtand at two Inches diſtance, and they are narrow, of a dead green, not very long, pointed at the End, and hollow'd.

The Flower, whoſe Weight bends down the Top of the Stalk, terminates it ſingly, and is of the Bigneſs of a ſmall Tulip. The Ground Colour, is a deep, but duſky Purple; and on this are placed oblong and oblique Lines, of a yellowiſh green: they do not make the regular Chequer-work we ſee in many of the other Fritillaries, but their Form and Diſpoſition is very pleaſing.

There is at the Baſe of every Petal of the Flower, a greeniſh Tinge; and this is continued down its Length, in three or four faint Lines; theſe terminate the oblique and ſhort Ones, which make the general Variegation; and when view'd near, they add not a little to its Luſtre.

Theſe Colours are moſt diſtinct on the Outſide of the Flower, but they are brighteſt within, where the green is alſo leſs ſeen. This is the Colouring, and this it preſerves without Variation.

The Conſtruction of the Flower, is the ſame as in the other Fritillaries. It conſiſts of ſix large Petals, and is of a Bell like Shape, with a broad Baſe.

Theſe riſe naked from the Stalk, as in the Tulip, without any Kind of Cup, and near the Baſe of each, within there is a ſmall Hollow, containing a Honey-juice, the Nectarium of the Flower.

Of this Part, we have had frequent Occaſion to ſpeak in the preceding Pages: often it is plac'd ſingularly and ſtrangely, as in the Paſſion-Flower, where it crowns the Whole, and in the Narciſſus, where it is moſt conſpicuous.

Here it is in its natural Condition, and thus we ſee it in the Lilly, and many other Plants, and in the Berbery Shrub.

It is an oblong hollow, and never is without its proper Content, a Drop of ſweet Juice, which is indeed true Honey.

The Bees collect this, not make it, as the Vulgar have ſuppoſed; and Men of Curioſity have done the Office for them.

In the Center of the Flower riſe ſix Filaments: they ſtand cloſe about the Style, and they have large, oblong, and ſquare Buttons.

The Style itſelf riſes ſingle, from a three corner'd Rudiment, and is ſlender and longer than the Filaments; its Stigma, or Top, is divided into three Parts; and ſo is the ſucceeding Seed-Veſſel, and on the Surface ſmooth.

The Characters of the Claſs are obvious; ſix Filaments and a ſingle Style, ſhew the Plant of the *Hexandria Monogynia*; the ſixth of the LINNÆAN Claſſes, and the firſt Section.

Culture of this FRITILLARY.

We have obſerved this is no more than a ſeminal Variety of the common purple Fritillary; and that it riſes among many others, when the Seeds are ſown, for a Succeſſion of new or fine Flowers.

This therefore is its original Production; and of this we ſhall treat at large, directing the Culture of the finer Varieties.

When the Plants of this Kind are ſeparated from the reſt of the Seedlings, they muſt be propagated farther by Off-ſets from the Root.

Theſe may be taken off once in three Years; and planted at eight Inches Diſtance, in freſh Beds; the larger will flower the firſt Year after the Removal; the others according to their Size, the ſecond or the third.

They muſt be taken off from the old Roots, when the Leaves are decayed, and planted again immediately; as muſt alſo the old Roots, for it is very prejudicial to them, to lie out of the Ground. The Soil for this Kind ſhould be two Thirds rich Garden Mould, and one Third paſture-Earth.

5. BLACK HELLEBORE.

Pl. 31. Fig. 5.

The Gardener knows, we hope, that this is a more proper Denomination of what he calls the *Chriſtmas* Flower; a Name in ſome Seaſons it not amiſs deſerves, tho' in others, 'twill be as late as this Time before it opens its vaſt Flower; whoſe Continuance has a Right to our Regard, as well as its Size: theſe, with the Time of its Flowering, give it a Claim in every curious Garden; which its hardy Nature, and its eaſy Culture very well ſupport.

The earlier Writers were all acquainted with it. Indeed, a Plant ſo ſingular and conſpicuous, a Native of almoſt every Part of *Europe*, and the Eaſt, and thruſting up its huge Flower through the Snow, could not have eſcaped Obſervation.

They have called it, *Helleborus niger*, *Helleborus legitimus*, *Helleborus flore roſeo*; and hence our *Engliſh* Names of true Hellebore, Roſe Hellebore, and the reſt.

Theſe Authors had the Accuracy to obſerve, that the Diſtinction in the Colour of the Flower was accidental, and to be conſidered only as a Variation of the ſame Plant.

JOHN BAUHINE names it thence, *flore albo, interdum etiam valde rubente*, with the Flower white, and ſometimes ſtrongly ting'd with red; but we have ſeen it ſince diſtinguiſhed as two Plants.

LINNÆUS gives its Characters in his ſpecifick Name; this in his *Cliffort* Garden is, *Helleborus ſcapo florifero ſub-nudo petiolo communi bipartito*; Hellebore, with the Flower-ſtalk almoſt naked, and with the main Foot-Stalk of the Leaf divided into two Parts.

In his later Writings he has been more minute, but this is moſt expreſſive.

The Plant riſes to no great Height from the Ground; but the Cluſter of Leaves generally ſeen together, the Firmneſs of every Part, and the Bigneſs of the Flower always attract Attention.

The Root is compoſed of innumerable, thick, black Fibres, long, tough, and variouſly entangled; riſing from a ſmall Head, and ſpreading every Way to a vaſt Diſtance.

The Leaves are large and numerous, and are divided in that coarſe fingered Method, which modern Botany calls *pedated*.

There cannot be a better Example, by which to explain that Term. When a Foot-ſtalk is ſingle and undivided, and from its Extremity there riſe numerous Leaves ſpread out in the Manner of Fingers, theſe are not conſidered as ſo many diſtinct Leaves, but as Parts of one; and the Whole is called *digitated*, or *finger'd*. Theſe Parts are two, three, five, or any greater Number.

When the common Foot-ſtalk is ſplit at the End, and the Leaves are fixed only to its inner Side, the Leaf is pedated.

This is a coarſer Diviſion, tho' of the finger'd Kind, and will be explained for ever to the Student, by our Figure.

The Foot-ſtalk of this divided Leaf is thick, ſhort, and juicy, it uſually riſes ſlanting, and is of a freſh-green; when the Plant is in Perfection, it is ſtained with red, in various and irregular little Spots.

The Leaves placed on its divided Top, and forming what is called the entire pedated Leaf; are uſually nine, they are oblong, broad, of a ſtrong green, and of a very firm Subſtance, indented round the Edges on their extreme Part, but perfectly entire below; and often cut out into a ſmall Point at the End.

The Diviſions of the Foot-ſtalk at the End are always coloured, rediſh or browniſh; and in the beſt Condition of the Plant, theſe and the main Rib on the Back of the Leaf are purple.

The Flowers appear among the Leaves, each on its ſeparate Stalk, and theſe ſcarce longer than thoſe of the Leaves: but the Size of the Flower renders it very conſpicuous.

The Stalk is fleſhy, round, of a pale green, and elegantly ſpotted with Crimſon; it is rarely quite upright.

'Tis not the Weight of the Flower bends it, but Winds, and ſevere Seaſons. There grows no proper Leaf upon this Stalk, but cloſe under the Flower, there is a filmy Subſtance, and ſometimes below this, another. They ſerve in ſome Degree, the Office of Defence to the young Flower. Nature has denied it a Cup, but theſe Films ſeem to have been given in its Place.

The Flower itſelf, is of the Bigneſs of a ſingle Roſe, expanded, white, or variouſly ſtain'd with Crimſon.

Sometimes the white is perfect; ſometimes the red is ſhewn throughout; but in the moſt elegant State, the two Colours are mixed, and as in the Apple Bloom, the red is principally on the Outſide of the Flower.

In the Centre are numerous Filaments, ſupporting yellow Buttons, and from the Baſe riſe up a Kind of Horns, which ſhew their curl'd Tops above the Cluſter, and are of a pale green.

Round about the Filaments, are numerous open Cups, as it were, of a delicate ſtrong green, tip'd with Gold.

This is the general Aſpect of the Flower, and thus the curious, tho' uninform'd Eye, views it with Wonder. The Buttons cluſter round the horned Rudiments on the Flowers firſt opening, and ſpread out far and wide, as it grows more accuſtomed to the Air; the Horns themſelves, and moſt of all the hollow Bodies which ſurround the Filaments, call for Admiration.

They will be named ſtrange and ſingular Parts, in thoſe untaught the Leſſons of this agreeable Science: but Philoſophy admits no ſuch vague Terms, as ſtrange and ſingular Parts in this Matter. Every Thing is explained, every Part has its Name, and there is no Flower, where they are better diſplayed by Nature, or more open to the Eye of the Student.

To ſearch the Claſs of the Plant, the young Botaniſt knows he is to examine theſe golden Buttons, to count them with their Filaments; and afterwards, to trace them to their Origin.

He begins their Account, and he ſoon finds them many more than the higheſt Number, from which a Claſs is characteriſed; this is twelve.

When he has counted ſo many, and ſees a Number more, he knows the Plant is one either of the *Icoſandria*, or of the *Polyandria*.

In each of thoſe Claſſes the Filaments are numerous, but in the *Icoſandria*, they riſe from the Petals of the Flower, or from the Inſide of the Cup; whereas, in the *Polyandria*, their Origin is from neither Flower nor Cup, but from the Receptacle.

This known, the Student is to trace theſe Filaments, whoſe Number declare the Plant to belong to one or other of thoſe Claſſes.

There is no Cup, therefore they cannot be inſerted there: to know whether the Petals give them Origin, let one be taken carefully off, it will come entire from the Top of the Stalk, where it is inſerted under a ſmall rounded Head; and one after another, they muſt be all taken thus away, with no Filament adhering to them.

Let theſe be counted; they will be found five; they compoſe the Body of the Flower; they are broad, hollow, ſtriated; and each has a Spot of green at the Place of its Inſertion.

Theſe remain a long Time, and ſerve the Office of a Cup, defending the ripening Seed-Veſſels.

From the Duration, and the Want of another Cup, they have by ſome been ſuppoſed only the colour'd Leaves of one, and the Plant has been declared to have no Petals: this is as contradictory to the Senſes, as to Reaſon: the Eye declares this a Flower, not a Cup; tho' it performs the Office of one; and Nature ſhews it who has given thoſe Films we named before, as its Support.

Theſe Films riſe from the outer Rind, or green Skin of the Stalk, as the Cups of Flowers naturally do; but the coloured Petals riſe from the innermoſt Bark, which is filmy, white, and like them in its Nature.

Thus the Form, Colour, and Production of theſe Parts, ſhews them to be Petals, and to compoſe the Body of the Flower.

Theſe ſeparated and diſpatched, our Student returns to the Filaments, his principal Object. Theſe he can now ſee diſtinctly riſe from a flat, rounded Body, conſpicuous enough, tho' ſmall, from whoſe under Part, roſe alſo the Petals. This is the *Receptacle*.

He ſees therefore, that the Receptacle is that Part, which ſerves as a Baſis to the ſeveral Organs of Fructification; it is here ſingle and proper, it connects all the Parts of one Fructification, and thoſe of one only: in the compoſite Flowers it is otherwiſe. Having thus explain'd it in the plain and ſimple State, we ſhall refer hither when treating of it in the more complex Form.

To this plain Receptacle the Student follows down the Filaments of this Hellebore Flower; here he finds them all inſerted; this he knows to be the Receptacle, and he is aſſur'd the Plant is of the *Polyandrous*, not of the *Icoſandrous* Claſs.

We have never had ſo fair an Opportunity of explaining this before; therefore ſhall add, that in this Manner he is to trace the Filaments, when numerous, in all other Flowers, and thus to determine of them.

The *Polyandrous* Claſs is large, and the Plants refer'd to it by the Origination of their numerous Filaments, are ſubdivided, according to the Number of their Styles: the firſt Section comprehends thoſe which have one Style only; the ſecond, thoſe which have two; the third, ſuch as have three; the fourth, four; fifth, five; ſixth, ſix; and the ſeventh ſuch as have more than that Number.

Our Student counts thoſe horned Tops which riſe from the Rudiments, which he knows to be the Styles: he finds in this Flower eight of them; and he knows therefore the Plant is one of the *Polygynia.*

He has examin'd and he underſtands the Petals, Filaments, and Styles of this Flower, and he has found its Claſs; but there remain yet thoſe ſingular hollow Bodies ſurrounding the Filaments. He knows that when he finds a Part in any Flower, diſtinct from Petals, Filaments, and Style, this is the Nectarium of that Flower.

The preſent Subject of Enquiry is ſuch: each of theſe hollow Bodies is a Nectarium, and each is divided into two Lips; the outer one of which is large and hollow, the inner one ſmall: their whole Number in the Flower is about thirteen, but this is not invariable. They ſurround, in a regular Circle, the Filaments and Rudiments of the Seed-veſſels, whence riſe the Styles, and they are inſerted with them on the Receptacle, not fix'd to the Petals.

Each has its ſhort and very ſlender Footſtalk: the Baſe fix'd immediately on this is roundiſh, thence the Nectarium riſes tubular, and widens to the Top. The little Footſtalk is whitiſh, the Body of the Nectarium is of a fine green, and the Tip of each Lip is yellow.

This is the perfect Structure of the Hellebore Flower, in which the Student will read diſtinctly this large Leſſon of the Science. The Seed-veſſels which follow are equal to the Styles in Number, and each contains numerous roundiſh Seeds, fix'd to the Suture of the two hollow'd Parts of the Capſule.

Culture of the BLACK HELLEBORE.

We have ſaid the Plant is native of the colder Climates: it thrives beſt on a hilly Situation, where the Soil is firm and not too poor; and very little Trouble is requir'd in its Culture.

Let a Border be fix'd upon that which has the Morning Sun, but no more: let a Mixture of equal Parts, Pond-Mud and loamy Paſture-Earth, be put into this; and in the Beginning of *May*, when the Plant has ripen'd its Seeds, let the Roots be parted, and planted out at eighteen Inches Diſtance.

After this, they will only require to be kept free from Weeds and water'd at Times, and they will flower the ſucceeding Seaſon.

The Propagation is ſo faſt this Way, that there is no Need of raiſing the Plant from Seeds; nor is there any great Advantage in the Beauty of the Flower to be expected that Way; but if any deſire to follow that Method, it is very eaſy: the Seeds ſhould be ſown, in the Beginning of *Auguſt*, in ſuch a Soil and Situation as we have directed, and they will ſtrike freely.

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6. CRIMSON ERYTHRONIUM.

Pl. 31. Fig. 6.

The Garden, at this early Seaſon, affords few Plants more elegant, or, for the Bigneſs, more conſpicuous than this. Its Beauty and Singularity recommended it to early Notice among the Writers on Plants; and our firſt Hiſtories that name *Engliſh* Gardens, ſpeak of it as an eſtabliſh'd Inhabitant: its eaſy Culture join'd with its early Beauty in recommending it to this univerſal Notice; but it was firſt known by a very inexpreſſive Name, *Dens Canis*, Dog's Tooth. Our Gardeners caught the Senſe of this, and added the Name Violet, referring it to a Genus altogether diſtinct.

Some among the Authors of Credit have alſo call'd it a *Satyrium*, confounding it among that very diſtinct Claſs the *Orchis's*. LINNÆUS names it *Erythronium*, and all the late Writers follow him.

Thoſe who caught every ſlight Diſtinction in Appearance, and were fond of raiſing thence new Species, have diſtinguiſh'd ſeveral Kinds of this; the longer and the rounder leav'd, the white flower'd, and the red; but later Botany, refering all theſe to the one original Kind, admits no Addition to the Name, but calls it ſimply *Erythronium.*

We have figur'd that Variety with Crimſon Flowers, as beſt worthy the Gardeners Attention, and beſt anſwering the Name; but he who ſows the Seeds of this, will have white Flowers among them.

The whole Plant is elegant, tho' ſmall; the Leaves

The Embroider'd Tulip
Crimson Daphne call'd Mezereon
Yellow painted Iris
Crimson Erythronium
usky Fritillary
Black Hellebore

Leaves and Stalk, as well as the Flower, ſingular and beautiful.

The Root is long and white: thick in the lower Part, and ſmaller upwards.

From this riſe, early in Spring, two Leaves, and with them the Flower-ſtalk and the Bud: this is tender, and at its firſt Riſe above the Surface, would be deſtroyed by the Froſt and ſharp Winds of the Seaſon; but Nature has provided a Defence: it riſes in the Midſt of the two Leaves, and they cloſe round about it; ſo that what appears is an oblong Maſs, or great Bud, burſting from the Root. After ſome Time theſe Leaves open at the Tops and Edges, and ſhew their Form: the Flower-Bud and its tender Stalk are by Degrees thus inur'd to the Air; and they bear it without Hurt.

The Leaves fall oppoſite on the Ground, and are oblong, moderately broad, pointed at the End, and divided at the Edges; without Footſtalks, and of a fleſhy Subſtance. Their narrow Baſe, where it riſes from the Ground, is whitiſh ſtain'd with Crimſon, and from this Part it is hollow'd.

The Rib on the under Part is Crimſon, and there run ſeveral oblique Fibres from it, ting'd with the ſame Colour.

The upper Side of the Leaf is very delicately variegated with a duſky brown upon a fine bright green, which is the Ground Colour.

The Rib on this Side is green; and the brown, which makes the Variegations, is diſpos'd in an irregular Manner, like the Veins and Clouds in ſome of the fine Marbles.

This is the natural Condition of the Leaf; but in good Culture it varies greatly; not only in theſe Accidents, but in what might appear more fix'd and certain; Number and Form.

Theſe Variegations will be ſometimes purple inſtead of brown, and ſometimes white. In the Place of two there will occaſionally riſe three, or but one Leaf: in the firſt Caſe they are uſually narrower; and in the other broader and ſhorter than in the common State of the Plant; but this is Accident; no Mark of a Diſtinction of Species.

The Flower-ſtalk has no Leaves, it riſes ſingle, and is four or five Inches high, round, tender, and of a delicate Red.

At the Top is plac'd one Flower, very large, ſpecious, too heavy to be ſupported upright on ſo weak a Stem, ſo that it droops; and does not, till fully ripen'd, turn up again.

This Flower is very large for the Plant; and in Colour, Form, and Variety of Aſpect, exceeds moſt others.

It is compos'd of ſix Petals, and is in Colour, when in greateſt Perfection, of the moſt delicate Crimſon painting can expreſs. In other Plants the Red varies thro' all Degrees, and it is ſometimes white. At firſt the Flower is clos'd together, and hangs perfectly drooping; from this State by Degrees the Petals raiſe themſelves, and become expanded in Form of a Star; but ſtill there remains a Part at the Baſe, clos'd to defend the Rudiment of the Fruit. The Petals expand from a certain Part, at about a fourth of their Length from the Stalk, and never open entirely.

The Flower, in this State, has its higheſt Beauty; the Crimſon occupies all the remote Part of the Petals, but from the Centre there runs into each a radiated Spot of White, which connecting itſelf, where the Petals touch, forms in the Whole the Repreſentation of a broad Star; ſuch as Heralds have devis'd to dignify the principal Orders of Knighthood; or ſuch as Nature forms with her pure Selenite, upon the yellow Coat of the *Septaria* *.

Within this lucid Star there ſtands another of a duſky golden Hue; its Baſe perfect yellow; but the radiated Part, which anſwers in every Point to the Rays of the white one, duſted with a deep tawney brown.

Thus appears the Flower in its full Glory; afterwards the Petals turn themſelves back, and exhibit a new Form. This we have repreſented in the Figure, becauſe thus the internal Parts are moſt expos'd to the Eye of the young Botaniſt. We now come to examine the Flower in due Method, to learn the Claſſical and Generical Characters of the Plant.

It riſes naked from the Stalk, defended by no Cup. The ſix Petals are plac'd three outward and three inward, alternately; and they have a rounded ſwelling Baſe, whence they grow broader to the Middle, and thence narrower again to a Point.

Six Filaments and a ſingle Style are moſt extremely conſpicuous: 'tis for that Reaſon, as alſo in the former Inſtance, we have taken ſo large a Scope of Explanation; for they will ſerve the Student for a thouſand other Leſſons.

The Filaments are Snow-white, large at the Baſe, and ſmaller to the Top: their Buttons are long, furrow'd, and of a Violet Purple, duſted with white.

The Style is Snow-white, thick, longer than the Filaments, and at the Summit divided into three Parts, which are ſplit at the End.

The Plant is therefore one of the *Hexandria* of LINNÆUS, and of its firſt Section, or, as he calls it, Order, the *Monogynia*.

The Seed-veſſel is roundiſh, but ſmalleſt toward the Baſe; and it contains, in three Cells, many Seeds of an oval Form, but pointed.

Here the Student might ſtop his Enquiries, for we have ſeen the Structure and the Characters of the Flower: but let him who follows the Steps of Nature in our Courſe, never leave any Part unſearch'd: there may be Particularities yet unobſerv'd; for the Filaments and Style are ſo conſpicuous, the Flower needs not be torn open to deſcry them. Let that be done now.

He will thus find what no LINNÆUS yet has told him; that of the ſix Filaments, three grow to the Petals, and three to the Receptacle; and he will ſee plainly the Nectaria that Author ſo well diſtinguiſh'd. This Inſertion of the Filaments can only be found by our Method of taking the Flower to Pieces.

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* Hill's *Hiſt. of Foſſils.*

Let the Student begin with one of the three exterior Petals, and gently take it off, by pulling downwards; it will come entire and ſimple, with no Filament or Gland annext, but with a plain ſmooth Baſe; the other two will obey the Hand in the ſame Manner.

There will remain upon the Stalk the three inner Petals, and all the ſix Filaments, whoſe Figure he will now diſtinguiſh very perfectly: and he will wonder how it came, LINNÆUS, uſually correct, call'd them *breviſſima*; for they are of very conſiderable Length, more than a third of an Inch, excluſive of the Antheræ.

He will, on this ſtrict Examination, alſo blame the Term *obtuſum*, apply'd to the Diviſions of the Stigma, for they are ſplit. Perhaps this Fault is to be laid on TOURNEFORT's Figure: for neither LINNÆUS nor any Man can go thro' all Nature with his own Hand.

The three outer Petals taken off, let our Student, in the ſame careful Manner, ſeparate one of the three inner; he will find this come off with one of the Filaments annex'd to it, and ſo will the two others. If theſe three Petals be carefully taken off, they bring with them three of the ſix Filaments, the other three adhering only to the Receptacle, as do theſe alſo at their inner Edge, ſo that 'tis difficult to bring them off entire.

Theſe three Filaments are inſerted at the very Baſe of the Petal; and there is a kind of Furrow, along which they run, with a ſmall roundiſh Gland on each Side cloſe at the Baſe. Theſe are the Nectaria of the Flower.

Culture of the ERYTHRONIUM.

The Plant is a Native of many of the Northern as well as Southern Parts of *Europe*, and alſo of *North America*. It thrives beſt on the Sides of Hills, where there is a little Shade and Moiſture: this ſhews the proper Culture.

Let a Border be choſen that is open to the Evening Sun, ſhaded from Noon, and that will hold a little Moiſture. Let this be fill'd up with an equal Mixture of rich Meadow-Earth and Pond-Mud, and in this propagate the Plants.

The ready Way is by Off-ſets from the old Roots, which muſt be taken off in the Beginning of *June*, and planted immediately; but the better Method is by Seeds.

Theſe ſhould be choſen from fine Plants, and ſown in *Auguſt* on the ſame Border, ſheltering the Ground by a few Buſhes in Winter, and afterwards keeping the Plants free from Weeds, and occaſionally water'd.

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CHAP. II.

The Management of the Flower-Garden, for this Week.

THIS Week let the tender Annuals, which are of a proper Growth for their Removal, be planted out into new Hot-Beds. Let theſe be covered deeper than the former; and the Roots be taken up with a great deal of Care: they muſt be ſhaded, and at Times water'd; and the Air muſt be admitted in the Middle of hot Days. We ſpeak here of the tenderer Kinds only, the *Gomphrena*, fineſt *Amaranths*, and *Double Balſams*.

The *China Aſters* will be fit for tranſplanting; and as theſe in the fineſt Kinds are very beautiful, we ſhall adviſe the Gardener to manage them three different Ways, that he may have every Advantage of Variety and Succeſſion.

Let the Plants now be divided into three equal Parts: let one third be planted out upon a Hot-Bed, with a Frame; another Parcel upon a ſlighter Hot-Bed, hoop'd and matted; and the third into the open Ground, in a fine ſunny and rich Border. Theſe laſt may take their Chance unremov'd; the others are to be tranſplanted again, as we ſhall direct at the due Seaſons.

Let all Carnation Plants which are to flower the ſucceeding Summer, be carefully manag'd. Once again, let dead Leaves, if there be any ſuch, be pick'd off; let Sticks be thruſt carefully but firmly into the Ground, for tyeing them up; and let them be faſten'd to them in two or three different Places; let the Mould be carefully broke about them, and, as it appears dry, refreſh'd with gentle Waterings.

Mark out ſuch Spots as will conveniently receive the ſeveral Kinds of *Lupines*, *ſweet Peaſe*, and the ſmall *Convolvulus*; and ſow their ſeveral Seeds in well broken Mould. When the Plants come up, the weakeſt muſt be taken away, that the others may have Room; and after this Weeds muſt be clear'd away; and they muſt have the Support of Sticks, and frequent moderate Waterings.

Thus may end the Buſineſs of the Week in the Borders; but the Walks muſt now employ a great deal of the Gardener's Care and Time. The Graſs will ſhew itſelf very ſtrong in Growth, and if neglected but a few Days now, will be rank and coarſe all Summer. It muſt be mow'd often, and roll'd carefully.

The too vigorous Growth of the Stalks will thus be check'd, and inſtead of a ſmall Number of hard Stumps, left by ſucceeding Mowings, there will be thus an Abundance of young Leaves from the Ground-Joints of all that are taken off at their firſt ſhooting.

SECT. II.

The Management of the SEMINARY, *for this Week.*

THIS Week let the Gardener finiſh the Sowing of biennial and perennial Plants for the Flower-Garden.

Let him dig up ſeparate Pieces in ſomewhat ſheltered Situations, and dividing each into ſeveral Spots, let him ſow on them the following Plants; Hollyhocks, and Tree Mallows, Campanulas, Wall-Flowers, Stock-July-Flowers, Pinks, and Sweet-Williams.

They muſt be thined as they come up, and from Time to Time afterwards carefully weeded and watered.

Tranſplant Cyſtus's and Phillereas, Hollies and Yews, Alatemus's and the Cytiſus's of ſeveral Kinds, out of their Seed Beds, or firſt Beds of Tranſplantation, to be ready for farther Removal, when wanted.

The Earth muſt be well broken; the extreme Fibres of their Roots trim'd off, and the Mould ſettled between them; after this, they ſhould be faſtened up to Stakes, and occaſionally watered.

The Evening is the beſt Time of the Day for his, and a ſhowery Seaſon ſhould be choſen. If Showers do not fall freely, their Place muſt be ſupplied with well regulated Waterings.

If there be Occaſion, ſome Turf may be laid, wrong Side upwards round the Stems, but this will only be needful for tender Kinds in very dry Seaſons.

Let four ſmall Pieces be well dug up, in a Situation not too much expoſed, and ſow Saſſafras and Magnolia Seeds, alſo the Acorns of the ever-green Oaks, and Cypreſs Seeds.

Theſe muſt be covered half an Inch with fine Mould, and defended from Injuries, by a few Buſhes ſcattered over the Ground, and by ſetting Traps for Vermin.

Let the Gardener now look carefully over his new grafted Trees. The great Danger is from the drying Winds of the late paſſed Weeks.

If the Covering of Loam be cracked, let him beat up ſome freſh; and renew it carefully. This Defence is the moſt eſſential of any Thing, after the immediate Buſineſs; for if the Wind gets to the Grafts, no Good is to be expected.

Let the Gardener next look over the Beds of Shrubs, tranſplanted from the Seed Ground. If Showers do not fall freely, let him water theſe Beds once in three or four Days, or all his former Care will anſwer no Purpoſe.

SECT. III.

POMONA, *or the* FRUIT-GARDEN.

THIS is the Seaſon when Inſects will begin to hatch upon Fruit-Trees, and too much Care cannot be taken to deſtroy them. Their Eggs have lain all Winter in theſe Places, but the ſame Warmth of Sun, which brings out the young Leaves, hatches theſe Devourers alſo to feed upon them.

They are moſt troubleſome on the weakeſt Trees; therefore the Care we have ordered to be taken, in digging up the Ground; and ſtrengthening their Growth by Manures, will in a great Meaſure prevent them; but they muſt be watched carefully now, and where they appear deſtroyed.

The firſt Sign of them, is a fading and curling up of the Leaves. Let the Gardener get a Quantity of Tobacco-Duſt and Stalks, and uſe it thus.

Let him mix with the Tobacco-Duſt, a little Pepper, and early in the Morning, let him take out a Box of this: pull away the worſt of the curl'd Leaves, and ſtrew the Duſt over the Place.

Then let him put into a large Tub, a good Quantity of Tobacco Stalks, and half as much Wood Soot, and upon this pour boiling Water.

Let this ſtand till three in the Afternoon the next Day, and then with a large ſoft Bruſh, waſh all the Places with it, where the Duſt was ſprinkled.

This is not only excellent to deſtroy the Inſects, but to promote the Growth of the Part; it anſwers the double Purpoſe of waſhing off the preſent Race of Inſects, and preventing others.

In Proportion to the Care taken now, the Plants will ſhoot ſtrongly; and Weeds will riſe among them with the ſame Vigour; theſe muſt be taken away, that all the Nouriſhment may go to the Plants; and if there be not frequent Showers, the Beds muſt be watered once in four Days.

If there be Vines in the open Ground, in the Vineyard-Method, this Week they ſhould have a careful Dreſſing. The firſt Thing is to ſtake them; and for this Purpoſe, let the Stakes be found, well fixed, and the Vines ty'd regularly to them: the ſparing a little Trouble, will be attended with a great deal of Diſadvantage.

This done, let the Ground be dug up a full Spade depth between the Rows, and the Clods well broke.

Thus let it lie free and open, to receive the Influence of the Air.

Look over the Fruit-Trees which were inoculated the laſt Seaſon; if the upper Part of the Stock have not been cut off before, let that be done now: and let the Ground be ſtirred about the Roots, and after this give a gentle Watering.

The Growth of the Bud at this Time is very eſſential, and theſe are the Ways to forward it. Let the Watering be repeated occaſionally, unleſs there fall naturally Showers.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

LOOK over the Beds of Aromatick Plants, for if there want a Supply, this is the laſt good Opportunity of doing it.

Sow Hyſſop and ſweet Marjoram; and ſeveral Kinds of Thyme, and Summer-Savory; and in Places where the Ground is ſomewhat moiſter, plant Mint, Baum, and Penny-royal.

If there want Showers, theſe muſt for the firſt Fortnight have frequent Waterings.

The Seeds will require no Care: when the Plants appear, they muſt be watered, and after weeded, and when it is ſeen which are the ſtrongeſt, the weaker muſt be pulled up, to give theſe free Room for Growth.

This is a very favourable Seaſon for Sowing, and let the Gardener uſe it accordingly, for Supplies of his ſeveral Crops.

Radiſhes ſhould be ſown now upon light, rich Earth, and often watered. They will come to a due Bigneſs in a very ſhort Time, and will be the fineſt of the Year.

Let thoſe Beds which were ſown with them earlier, be kept clear from Weeds, and water'd once in four Days, unleſs there be ſufficient Showers.

In ſmall Pieces of Ground, the Weeding is beſt done by Hand, but in larger, it muſt be by Hoeing.

Let the Sowing and Planting of Beans and Peaſe, be yet continued; the fineſt Kinds of Beans ſhould be ſelected for a late Crop; and the Marrow-fat are the beſt Peaſe.

The Ground muſt be well dug for them; and the Rows ſhould be at ſuch a Diſtance, that the Spade can be hereafter brought in between them: this will be the Method of bringing them to Perfection.

Once in ſix Days, let a ſmall Piece be dug up for young Salletting. The Succeſs of this depends upon the Richneſs of the Soil, and Fineneſs of the Mould.

This is the Time, when the ſeveral Kinds ſown for this Uſe grow moſt freely of all, and the Produce will be tendereſt and fineſt.

The Seeds muſt be ſown in Drills, and not too thick; each Kind ſeparate, and the Seed well choſen. They muſt be covered lightly, and encouraged to ſhoot, by frequent Waterings, unleſs Showers come as freely as could be wiſhed. They will thus be tender and thick in the Stalk, and the Leaves freſh and full of Juice.

They ſhould be gathered juſt in the Time they attain due Bigneſs, and as they continue in Perfection only five or ſix Days; there ſhould be always a Succeſſion ready by that Time.

The commoneſt Things are moſt neglected; but we ſhall add one Caution, regarding young Salletting, which will render it much finer than in other Methods.

Let the Gardener over Night, water the Quantity he intends for the next Day's Service, and mark it with Sticks, that he take up the ſame Part; let this Watering be given about five in the Afternoon; let the Sallad be gathered early the next Morning, taking it up by the Roots, not cutting it, and let it be laid in a Cellar, between two Diſhes; juſt when it is wanted for the Table, let the Roots be cut off; and leave leſs of the Stalk, than is uſually ſent up.

Theſe little Cautions, the beſt Gardeners keep to themſelves, and upon them depends the Succeſs of all their Gatherings.

Mr. WILSON acknowledged to me, this was all his Secret, for having the Spring Salleting ſo firm and fleſhy, as every one admired.

The *French* of late have got into a Method of raiſing this young Sallad in Boxes of Earth in Cellars; and prefer it to what grows in Hot-Beds, or the open Air. The Principle is the ſame, for 'tis the Sun that exhales the Juices of theſe young Leaves, and renders them flabby. This is prevented in our Way, by pulling them in a Morning, before that Days Sun has Power, after ſwelling them out by a good Watering.

Look over the Places where Crops begin to grow ſtrong, and give them all the Advantages of Cleanneſs from Weeds and freſh broken Earth for Shooting.

When the Rows are ſo diſtant as in the Peaſe and Beans of our Direction; let the Ground be well dug up with the Spade, and ſome of the fine Mould thrown on each Side, to ſtrengthen their Stems.

When there is not this Space, as in the Carrot and Parſnip Salſefee and Scozonera Beds, hoe up the Ground well; and where the Plants ſtand yet cloſer, weed by Hand.

In each Caſe, follow the Weeding by gentle Waterings, when Nature denies Showers.

Plant Sticks for thoſe Rows of Peaſe which require it, always remembering that it is beſt done early, for theſe Plants are checked very much by their Stalks trailing on the Ground.

If there be any Beans planted at thoſe large Diſtances we have recommended, let a firm Stick be thruſt into the Ground near each; and let them be ty'd up in two or three Places: it is not conceived, how much the Vigour of a Plant of this Kind is promoted, by preventing its rocking at the Root; nor will any, but thoſe who have try'd, imagine how large a Quantity of Beans will be obtained from a very ſmall Number of Plants thus managed.

The Ground muſt once in a Fortnight be well dug up about them, and as in all the other Caſes, Water allowed, if Showers do not prevent the Labour.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XXXII.

For the End of *APRIL.*

SECTION I.

FLORA, *or* *the* PLEASURE-GARDEN.

CHAP. I.

Flowers and curious Plants now in their Perfection.

I. The PERSIAN IRIS.

April. Pl. 32. Fig. 1,

IT would not be eaſy to find a Gardener who was unacquainted with this little *Flower-de-luce*; and impoſſible to produce the moſt incurious Obſerver who ever paſſed it by unnoticed.

It is valu'd according to its Merit, but the Culture commonly allow'd it will admit Improvement; and, in Conſequence, the Flower may be render'd yet more beautiful.

The earlier Botaniſts were as well acquainted with it as the preſent, and as much admir'd it. FERRARIUS calls it *Iris Perſica variegata præcox*, Early variegated *Perſian Iris:* our PARKINSON, *Iris bulboſa Perſica*; and from him the Gardeners (for, till the ſucceeding MILLER, he was their Oracle) call it *Perſian Iris.*

TOURNEFORT and RAY, admitting the Form of Roots in certain Kinds into Generical Characters, ſeparate this and ſome others from the *Iris* Kind: RAY under the Addition of the Term *bulboſa* to that Name; but TOURNEFORT under a new one, *Xiphion:* he calls it *Xiphion Perſicum præcox flore variegato.* The Reader needs not, we ſuppoſe, be told that his faithful Follower, Mr. MILLER, recites it under the ſame Name, not as an *Iris.*

April.

LINNÆUS, much ſuperior to theſe ſlight Men, acknowledging none but the Parts of Fructification, as diſtinctive Characters for Genera, refers this where Nature plac'd it firſt, and calls it *Iris:* he adds, as the Diſtinction of the Species, *corollis imberbibus, foliis ſubulato canaliculatis, caule longioribus:* Beardleſs *Iris*, with furrow'd, ſlender, and ſharp-pointed Leaves, longer than its Stalk.

The Root is of the bulbous Kind, but oblong, Pear-faſhion'd, white, inſipid to the Taſte, and cover'd with many Films, under which its main Skins or Coats lie. This differs more in Taſte from the common *Iris's*, than in Figure. Their Juice is acrid and intolerable. From the Baſe of this Bulb run many thick yellowiſh Fibres, tufted with numerous Hairs.

The Stalk is very ſhort, rarely more than three Inches in Height, and at the Baſe it is cover'd with ſeveral thick whitiſh Membranes; theſe are Continuations of the outer Coats of the Root, which Nature extends beyond their uſual Form, to defend a tender Stalk riſing in ſevere Seaſons: they envelope one another, and open at the Points, to let out the Stalk; and they are rib'd: the Ribs faintly ſtain'd rediſh.

With the Stalk riſe about ſix Leaves from within the Covering of the ſame common Membrane: they are longer than the Stalk, but not much; they are narrow, hollow'd, ſharp-pointed, ſtrongly rib'd lengthwiſe, and of a greyiſh green: they ſurround the Stalk at the Baſe; but within them it is covered with two others, ſhorter, greener, and more fleſhy.

The Stalk when naked is of a pearly whitiſh Colour; but theſe Leaves which cloſely cover it are green. The Flower ſtands ſingle at the Top, and is large and very beautiful.

It has no Cup: a few ſlight Films ſerve that Purpoſe. The Shape is ſingular, as well as the Colouring, and it is compos'd of ſix Petals: they have been accounted nine; but this we have explain'd before. The broad Tops of the Style are in this like thoſe of the other *Iris's*, and therefore eaſily miſtaken for Petals.

Of the proper ſix, three unite themſelves into a Body, and ſtand erect in the Middle; the other three are plac'd obliquely; they all adhere by their Bottoms; and they are long, large, and obtuſe. The three broad Diviſions of the Stigma, which have been call'd Petals, are turn'd back and downward.

Theſe are the Parts of this Flower, and their Diſpoſition; their Colouring muſt be ſhewn by the Pencil alone, for Words can do it but very faintly.

The Ground Tinct is a pearly white, ſtain'd more or leſs with blue. The three outermoſt Petals have all along their Middle a broad Line of yellow, diverſify'd with Spots of ſuch a lively brown, as forms the inner Star in the Flower of the *Erythronium*; and on each Side run innumerable little Lines of Violet.

The Extremity of this golden Line ſtops ſhort of the End of the Leaf, and it is there of a finer yellow than elſewhere. At the End is a large Spot of the moſt perfect deep violet Purple, with the Velvet Hue, and this is ſurrounded with white. The upright Petals are more pearly, but they have alſo their elegant Variegations, as have the Diviſions of the Stigma.

The Filaments are three: they are affix'd to the Baſes of the three outer Petals, and they are ſhort, but crown'd with very long Buttons, flatted and furrowed.

The Style is ſingle and ſhort, it riſes from a Rudiment of the Seed-veſſel, plac'd beneath the Receptacle of the Flower, and it is crown'd with the foliated Stigma we have deſcrib'd already.

The Seed-veſſel is oblong, mark'd with three Ridges, and fill'd with numerous large Seeds.

The three Filaments ſhew the Plant one of the *Triandria*, the third Claſs of LINNÆUS; the ſingle Style, one of the *Monogynia*, its firſt Section.

Culture of this IRIS.

This elegant Species is a Native of the *Eaſt*, and demands and deſerves ſome Attention: it is never without Beauty; but we ſhall inform the Gardener how he may add greatly to the Variety and Luſtre of its uſual Colouring.

The Plants muſt for this Purpoſe be rais'd from Seed; and, to give them all the Advantages of Culture, the Soil, Situation, and Refreſhment of the Ground muſt be attended to with Care. In *November* let him mix up the following Compoſt, to lie nine Months in the Air before it is us'd.

Dig a Barrow of Mould from under the Turf in an upland Paſture: mix with it a Buſhel of Earth from under a Wood-Pile, half a Buſhel of old Cow-dung, a Peck of Marle, or, in its Place, a Peck and half of Pond-Mud, and half a Peck of Sand. Strew over theſe a Handful of Wood-Soot, and two Ounces of common Salt. Mix them very well in a Heap, and turn this as often as Weeds appear.

In Spring mark three or four of the fineſt Flowers where they blow ſtrong and lively: as they fade, give once in three Days gentle Waterings; and now and then ſtir the Surface of the Mould. Thus forward the Seeds; and when they have attain'd their full Bigneſs, let them ſtand ten Days unwater'd to harden.

Then cut off the Heads, and lay them on a paper'd Shelf in an airy Room.

When they have lain to be well dry'd, open them, ſhake out the Seeds, and ſcatter them to harden on the ſame Shelf.

Then prepare Boxes for the ſowing them. Let theſe be a Yard long, two Foot eight Inches broad, ſeven Inches deep, and nail'd up of firm but rough Boards. Bore five Holes at equal Diſtances in each, and cover theſe with Oyſter-ſhells. Then fill the Boxes with the Compoſt, and ſcatter on the Seeds pretty thick.

Sift over them a Quarter of an Inch of the ſame Compoſt, and ſet them upon Bricks, in a Place where they may have the Morning Sun, but be ſhaded from that of Noon. The End of *July*, or Beginning of *Auguſt*, will, according to our Management, be the Time of ſowing them.

Keep the Mould clear of Weeds, refreſh it at Times with a little Water; and in the Beginning of *October* remove the Boxes into a Place defended from all Cold, and open to the Noon Sun: and let a Mat be hung from the Wall, that may in bad Weather be let down over them.

Early in Spring the Plants will appear. Let the weakeſt be taken up where they riſe too thick; let the Mould be kept clear from Weeds, and refreſh'd now and then with Water; and at the End of *April* let them be remov'd into their firſt Place.

In *July* the Leaves will be decay'd. Let a Quarter of an Inch of freſh Compoſt be ſifted over them; and let them in *October* be remov'd again into their Winter Situation.

All this Time the Heap of Compoſt, from which the Filling of the Boxes was taken, remains open to the Air, and muſt be turn'd at Times, and kept from Weeds.

The next Year, in *July*, when the Leaves of the young Plants are decay'd, a Border muſt be prepar'd for the Reception of their Roots.

Chuſe a warm ſhelter'd Place, take out the Mould, and throw in two thirds of the Compoſt. Lay the Surface level, and draw Lines lengthwiſe and a-croſs, at four Inches and a half Diſtance. Mark an Opening in the Centre of each little

Square,

April. Square, and then ſeparate the Roots from the Mould in the Boxes, picking them out by Hand, not ſifting the Mould, as may be done in ſome Caſes.

Set one Root, in the Centre of each Square, upright and ſteady; and when all are plac'd, ſift over them ſome of the remaining Compoſt; let them be cover'd two Inches above the Top, and leave them thus to Nature. Weeding and Watering are all they require further.

The remaining Compoſt muſt be ſaved to ſift over them, a Quarter of an Inch at a Time, in Autumn; to defend them from Froſt, and in Spring, before their ſhooting. The third Year they will flower; and there will be found a glorious Variety.

The fineſt muſt be mark'd; and when they have flower'd three Seaſons, Seeds muſt be ſav'd from them, and ſown in the ſame Manner. The firſt Crop will exceed the common Flowers of this Kind; but the Produce of the beſt among theſe will exceed the Gardener's warmeſt Expectations.

Once in three Years the Roots ſhould be taken up, but they muſt ſoon be planted again, for they are ſpoil'd by the Air. This taking up is for removing the Off-ſets, and refreſhing the Bed with new Compoſt; and that ſhould be made as the firſt.

It is remarkable in this Plant, that the Colours in its Flower are in a Manner invariable in their Place and Dye, but the Improvement is ſurprizing, which from this Management they admit in Luſtre.

2. TRIFOLIATE ARUM.

Pl. 32. Fig. 2. We are accuſtom'd to a Plant of this Kind under our Hedges; which, if leſs common, would not be ſeen without Wonder: for Nature ſcarce affords a more ſingular Genus. But with all the Peculiarity of the common Kind, this, which is only to be found where curious Induſtry has plac'd it, has great Beauty.

Our Encouragers of Botany have it from the *American* World, whence it alſo came early into *Europe* after the firſt Settlements; and thoſe Authors who have written ſince that Time do not fail to name it.

In Caspar Bauhine we read of it under the Name of *Dracunculus ſive Serpentaria triphylla Virginiana*; and under this Name Dodart has figur'd it.

The Characters of the *Arum* are too ſtrong impreſs'd upon it to be overlook'd, and all elſe have given it under that Title, tho' with various Additions.

Morison has deſcrib'd it by the Name of *Arum pene viridi*; and Plukenet of *Arum triphyllum pene atro rubente:* they ſaw the Plant from colder Parts of *America*, and ſuppos'd it different from the original Kind firſt ſhewn us from the *Brazils*; but the Variation is ſlight, and no more ſufficient to make a Diſtinction of Species than the green Club in Morison's Plant, or deep red one in that of Plukenet; no more than the red and white we ſee in the common *Arum* of our Hedges.

Linnæus, to whom the World of Science is indebted greatly for his Reduction of imagin'd Species, merits that Praiſe in this as ſtrongly as in any Inſtance.

He juſtly determines from the perfect Sameneſs in the more eſſential Parts, that the Difference in Leaves between the *Braſilian* and *Virginian* Plants is only accidental; and refering both to one Species, adds, as its diſtinctive Title, *acaule foliis ternatis:* Ternate-leav'd *Arum*, with no riſing Stalk.

The round Body, which in this, as in the common *Arum*, riſes a little from the Ground, and gives a firm Baſe to the Leaves and Flower, is not to be call'd a Stalk: this has no other; and the Term *acaulous* is needful to diſtinguiſh it from the *Dracontium*, which Linnæus ranks in the ſame Genus.

The Root is roundiſh, ſoft, of the Bigneſs of a Filberd, and covered with a pale brown Skin. From its Top ſpread many Fibres.

The whole Plant conſiſts of two Leaves, rarely more, and its Flower; which all riſe together from the Head of the Root, envelop'd with a thick Film; and before that opens to let the Footſtalks of the Leaves ſpread, the whole forms a round Stem. The Membrane is whitiſh toward the Ground, greener upwards, and ſpotted with a wild Irregularity with red.

The Leaves have long Footſtalks, and theſe, with their hollow filmy Bottoms, are alſo of a pale green ſpotted with Crimſon.

Each Leaf is compos'd of three Parts, oblong, broad, wav'd and pointed. The Colour is a greyiſh green; but the Veins, which are extremely conſpicuous, are red.

Between the Footſtalks of the Leaves riſes that of the Flower, ſpotted as the reſt, but leſs ſo.

The Flower itſelf is of that ſtrange wild and irregular Form, which diſgraces all Syſtems in the common *Arum*. It conſiſts of a great oblong hollow Scabbard, containing the Parts of the Fructification in its defended Baſe, with the riſing Club, which thoſe Authors we quoted before, have idly call'd *Penis*; and nothing of the Nature of the *Corolla*, or colour'd Part of a Flower.

The Scabbard is extremely beautiful in this Plant; it is very large, open, and irregular at the Tops and Edges. Its Ground Colour on the Out-

April. Outſide is a fine ſtrong green, and on the Inſide purple, ſtrip'd throughout with broad upright Bands of white: in this, as ſeated in a Canopy, appears the Club or Spadix; it is oblong, thick, rounded, obtuſe at the End, and varies in Colour from pale green to white, and to the moſt perfect bloody purple.

This is all that is ſeen till the Scabbard is torn open: then appear the Parts of Fructification. Two Rows of Glands are ſeen on the Midſt of this Part of the Club; they are thick at the Baſe, and terminate in hairy Extremities; and between theſe are ſituated a Number of Buttons, but without Filaments, adhering to the Body of the Spadix: they are large and ſquare.

Round about the Baſe of the Spadix ſtand numerous oval Bodies, tip'd with hairy Filaments: the firſt nam'd Bodies were Nectaria, but theſe are the Rudiments of Fruit: theſe feather'd Tops are their Stigmata, and they have no Style. Each is follow'd by a roundiſh Berry, in which are many Seeds.

No Plant will more perplex the young Botaniſt with regard to its Claſs and Place in a regular Syſtem. He is to be inform'd that LINNÆUS, from the Situation of the Buttons, places it among the *Gynandria*; and from their Number in that Section, which contains the *Polyandria*. This and the Fig are Subjects for the Botaniſt to examine with Attention.

April.

Culture of this ARUM.

We have ſaid that it is a Native of *America*, and that in various Degrees of Heat and Cold, but it is always found in the ſame Soil: this is a mellow Earth, enrich'd by fallen Leaves and rotted Boughs of Trees, whoſe Shade in ſome Degree covers it. Thus we are to raiſe it, and it will attain all its natural Perfection.

Let a Compoſt be thus made:

Mix equal Parts light Paſture Mould, Pond Mud, and Earth of an old Wood-Pile. Throw them in a Heap, and let them lie ſome Months.

Let Seeds be ſav'd in *America*, and ſent over; and in the latter End of *February* let a Couple of Pots be fill'd with the Compoſt: let the Seeds be ſcattered over the Surface, and covered with a Quarter of an Inch of the ſame Mould ſifted over them. Let theſe be plung'd up to the Rim in a Bark-Bed, and the Earth kept moiſt.

When the young Plants appear, let the weakeſt, where they ſtand too cloſe, be taken up; and when the others are of a Size to remove, let each be planted in a ſmall Pot of the ſame Compoſt.

Let them be ſhaded till they have taken Root, and then inur'd to the Air by Degrees. In *June* let them be taken entirely out, and a Fortnight after planted in a warm Border, where there is ſome Shade, fill'd with the Compoſt.

Here they will ſtand our Winters; and after the firſt Stock is thus rais'd they may be encreas'd by parting the Roots, which ſhould be taken up for that Purpoſe in Autumn.

3. DOTTED ACADIAN LILLY.

Pl. 32. Fig. 3. We ſhall figure to the Gardener many finer Lillies than this little one; but it deſerves his Notice; there is a Delicacy in the whole Plant extremely pleaſing; and, when well manag'd, a Luſtre and Variety in the Flowers, inferior to few.

Thoſe who have written of the *American* Plants, have almoſt univerſally nam'd it; and none under any but its proper Title.

Though inferior to the Generality of Species, it is ſo much a Lilly in the Flower, that none could call it by any other Name.

MORISON calls it *Lilium martagon canadenſe maculatum.*

BARRELIER and TOURNEFORT, *Lilium anguſtifolium flore flavo maculis nigris diſtincto.*

LINNÆUS, *Lilium foliis verticillatis floribus reflexis, corollis campanulatis:* but the Flower droops ſo little, that the Word *reflex* ſays more than it ſhould.

The Root is of an oval Form, covered with white Scales of a thin Subſtance, and compos'd of thicker Parts of the ſame Form.

The Stalk is ſlender, brown, upright, and gloſſy; very weak, but a Foot in Height.

The Leaves ſtand at ſmall Diſtances, about five naturally in a Place, ſurrounding the Stalk, and riſing obliquely upwards; but between theſe Cluſters there are uſually ſome ſcatter'd ones plac'd ſingly and irregularly. They have no Footſtalks; they are oblong, moderately broad, and of a duſky green, rib'd lengthway with pale Ribs; pointed at the Ends, and undivided at the Edges.

At the Top of the Stalk is plac'd a ſingle Flower, large and elegant. The Tenderneſs of the Stalk makes it hang a little, but it is not of the reflex Kind.

It riſes naked from the Stalk, without any kind of Cup; but the uppermoſt Cluſter of Leaves ſerves it in the ſame Degree of Defence with the Involucrum of the Anemonies, and ſome other Kinds.

The Petals are ſix; they are oblong, broad, rib'd at the Back, and hollow'd each Way; and are ſo diſpos'd, widening from the Baſe, that the Flower is Bell-ſhap'd, rounded, and ſmalleſt at the Baſe, wider to the Mouth, and the Points of the Petals are thick and turn'd back along the lower Part of each Petal runs an obvious Line, the Nectarium of the Flower.

The Colour varies in the different Parts of the Petals; they are of a bright gold yellow at the Baſe, of a firey rediſh yellow in the other Part, and in the Middle ſpotted in a wild but elegant Manner with a deep purple.

The Ribs and Hollows are moſt plain in the three broader Petals; the other three are narrower, and have them not in any Degree ſo conſpicuous.

In this, as in the other Lillies, the Parts of Fructification are very apparent.

The Filaments are ſix, long, ſlender, plac'd near to one another, upright, and crown'd with large purpliſh Buttons.

The Style is ſingle, and of a fleſhy red; it is conſpicuous among the Filaments, and beautifully diverſifies the Flower. It riſes from an oblong Rudiment, with ſix Ridges, and is crown'd with a large Head or Stigma, of a triangular Figure.

The Seed-veſſel is divided into three Cells, and is fill'd with large Seeds in a double Series.

The ſix Filaments and ſingle Style in this Flower refer the Plant obviouſly to the *Hexandria Monogynia* of LINNÆUS, the ſixth of that Author's Claſſes, and its firſt Section.

Culture of this LILLY.

It is a Native of many Parts of *America*, and lives there in a light mellow Soil, where it is not too much expos'd to Cold. This muſt be our Rule for its Culture.

Let a Compoſt be thus made for it.

Take a Buſhel of fine Meadow-Earth, half a Buſhel of Pond-Mud, a Peck of Cow-dung well rotted, and the ſame Quantity of Wood-Pile Earth: mix in a little Wood-Soot, and throw all up to the Weather.

Let a Border be fill'd with this in a warm and well ſhelter'd Part of the Garden, and there plant Off-ſets of the Roots, if they can be obtain'd conveniently: but to have the Plant in Perfection, the Seeds ſhould be procur'd from *America*. Theſe muſt be ſown in Boxes in the ſame Compoſt; and when the Roots have ſome Bigneſs, they muſt be planted out into ſuch a Border.

Seeds from good Flowers of our own will anſwer very well, but the beſt Flowers are rais'd from thoſe ripen'd in *America*. The Flowers from theſe have the true firey Orange in the Body, and they have Spots of the fineſt deep Violet, nearly black.

4. QUADRIFOLIATE BIGNONIA.

Pl. 32. Fig. 4. This is a very ſpecious and noble Plant, Native of the *American* Iſlands; and will acquire in our Gardens, even with moderate Care, an equal Perfection to what it ſhews in thoſe Places.

All who have written on the Plants of that Part of the World, have ſpoken of it, though under various Names.

DODART and PLUMIER have call'd it *Clematis.* — Our PLUKENET adopts alſo that Name. The *Engliſh* SLOANE, who wrote before Botany attain'd any Part of its preſent Perfection, call'd it *Gelſeminum hederacum tetraphyllum.* TOURNEFORT calls it *Bignonia*; and that Name LINNÆUS alſo adopts for the Genus; adding, as the Diſtinction of the Species, *foliis conjugatis cirrho breviſſimo arcuato tripartito:* Conjugate-leav'd *Bignonia*, with ſhort Tendrils, divided into three Parts.

The Root is long, thick, and black on the Outſide, furniſhed with many Fibres, and of a diſagreeable bitter Taſte.

The Stalk is very long but weak, and unable to ſupport itſelf; Nature has therefore given it Tendrils wherewith to climb, form'd in a peculiar Manner for laying hold of every thing that comes in its Reach: they are long, ſlender, curl'd, divided into three Parts, and theſe often again ſubdivided into Portions ſcarce thicker than Hairs.

The Stalks themſelves are rediſh, ſmooth and tough: they naturally wind about any thing that is able to ſupport them; and that Way, and by the Aſſiſtance of theſe Tendrils, keep themſelves up to a vaſt Height, covering, where they flouriſh beſt, Trees and Buſhes.

The Leaves are oblong, broad, and not unlike thoſe of the Laurel, but they have a kind of Appendage or Ear at the Baſe. They riſe in regular Number, four from each Joint; and they are ſupported on a divided Footſtalk, of an Inch long, from the Centre of whoſe Diviſion riſes alſo the three-parted Tendril.

Their Colour is an elegant green, paler on the under than on the upper Side, and rib'd with purpliſh Veins.

The Flowers are large and elegant, they riſe from the ſame Part with the Leaves, uſually two from each Joint; and in the full Blow they thus cover the Plant, and afford a very rich Appearance. They are two Inches in Length, and their Colour is a rich Orange Scarlet.

Each has its Cup, ſmall, hollow, and cut into five Diviſions at the Edge. The lower Part is green, but the Segments ting'd with yellow.

The Flower itſelf is form'd of one vaſt Petal, long, hollow, and gaping at the Mouth. Its Baſe is ſmall and tubular, and is lodg'd within the Cup. The Body of the Flower is very long belly'd, and open. The Diviſions at the Rim are five; two of the Segments which ſtand uppermoſt turn back, the three others expand themſelves below.

April. In the Centre riſe four Filaments; they are long, ſlender, ſmalleſt at the Top, and crown'd with a kind of double Buttons.

The Style in the Midſt of theſe is ſingle, and the Top a little ſwell'd.

The Seed-veſſel is a long Pod, divided into Cells, and fill'd with many flat alated Seeds.

The different Length of the Filaments here determines the Claſs of the Plant: where two are longer than the reſt, the LINNÆAN Syſtem places it among the *Didynamia:* and the Section is that of the *Angioſpermia*, thoſe which have the Seeds not naked, but in Capſules.

Culture of this BIGNONIA.

The Elegance of this Plant, when covered with its Flowers, exceeds almoſt every thing in our Gardens; and, with due Care, it bears the open Ground.

Where it is native 'tis always found in a deep rich Soil; and no Compoſt need be made for its Reception here: for nothing will ſupply it better than rich Garden-Mould.

Tho' it will live our Winters in a good Situation when it has acquir'd ſome Strength, the young Plants are tender. It will be therefore proper to raiſe them in a Hot-Bed, and by Degrees inure them to the Air. April.

Let good Seeds be procur'd from the *Weſt-Indies*; and early in Spring let them be ſown upon a Hot-Bed, among the tender Annuals: they will require the ſame Care with the reſt, and no other.

When they have had their repeated Removals with the others, in the Manner we have directed for the raiſing Annuals, they are to be tranſplanted into an open Border, expos'd to the South Sun, againſt a Wall, and defended from cold Winds; here they will grow very faſt, and the ſecond Year they will flower.

After this, they will only require pruning in Spring, to keep them in Order, and taking out dead Stalks and ill growing Branches: their Tendrils will faſten them very well to the Wall, and they will every Year, early in Summer, cover it for a vaſt Extent with their noble Flowers.

After this, they may be encreas'd by laying the Branches which root freely, and after one Year will be fit for removing into thoſe Parts of the Garden they are intended to decorate.

5. EVER-FLOWERING IBERIS.

Pl. 32. Fig. 5. The Flowers of the ſmall Shrub we here recommend to the Gardener's Care, are not ſingly large or conſpicuous, yet there does not want ſufficient Elegance in the Whole, to merit all the Attention that has been ſhewn to it. Tho' the Flowers are frivolous ſeparately, they make a handſome Appearance in the Bunches, wherewith the Branches naturally are terminated; and the whole Plant has a pleaſing Aſpect.

The early flowering alſo, and the long Continuance, are Conſiderations of no ſlight Account. There is no earlier Flower of Spring.

With good Management, the Shrub will be kept blowing the whole Summer; and even in Winter it is rarely altogether bare: it is therefore well call'd Everflowering.

All who have nam'd it, ſpeak of it with Praiſe. ZANONI calls it *Thlaſpi fruticoſum Perſicum foliis Cheiri.* BOCCONE, *Thlaſpi latifolium Polycarpon foliis leucoii*; and SEBA, *Thlaſpi fruticoſum ſemper florens.*

LINNÆUS, with Juſtice, removes it from the Genus *Thlaſpi*, and calls it *Iberis*. To this Genus, according to the Character he has eſtabliſh'd, it evidently belongs; and he diſtinguiſhes it from the other Species, by the Addition *fruteſcens foliis cuneiformibus obtuſis:* Shrubby *Iberis*, with obtuſe cuneiform Leaves. By this Name he diſtinguiſhes a Leaf, which is longer than broad, and is ſmaller all the Way from the Extremity to the Baſe.

The Root is woody, long, divided, white, and hung with a few Fibres.

The Stem is woody, irregular in Growth, and two Foot in Height, divided into many Branches regularly, and handſomely cloath'd with Leaves. The Bark is duſky on the Stem, and paler on the Branches.

The Leaves have no Footſtalks: they ſtand at ſmall Diſtances, and are oblong and undivided at the Edges: they adhere by a narrow Baſe, whence they grow gradually broader to the Extremity, where they are rounded. Their Colour is a ſtrong but often browniſh green; and they are of a firm and fleſhy Subſtance.

The Flowers are white: they ſpread themſelves in round and thick-ſet Tufts from the Tops of the Branches, and they are ſucceeded by flat Pods. The White of the Body of the Flower is agreeably diverſify'd by the Filaments, which are very conſpicuous, and of a pale Crimſon, and have yellow Buttons. The Flowers have a light and very agreeable Fragrance, not unlike the Smell of the Violet.

No Claſs more, than that to which the Shrub belongs, demands the Attention of the Student: it is the *Tetradynamia*. The Filaments in the Flower he will find to be ſix; and two of theſe ſhorter than the other four.

The Flowers muſt be examined ſingly. Each has its little Cup, compos'd of four ſmall oval

1 The Persian Iris

2 Trifoliate Arum

3 Dotted Acadian Lilly

4 Quadrifoliate Bignonia

5 ver-flowering Iberis

6 Blue Cluster flower'd Aster

hollow'd Leaves, of equal Bigneſs, and falling with the Flower.

The Petals, compoſing the Body of the Flower, are four, unequal in Bigneſs, two being plac'd outward, large and rounded; the other two ſtanding more within, and being ſmall and turn'd backward.

In the Midſt of the ſix Filaments riſes a ſhort and ſingle Style, crown'd with a blunt Top.

The Pod that follows is of a rounded Figure, compreſs'd; and has at the upper Part a ſplit Rim. It is divided into two Cells, with a pointed Membrane, and in each Cell contains a ſingle Seed. The entire Pod is terminated by an obtuſe Point; and, when ripen'd, is of a browniſh Colour.

On this Conſtruction depends the Propriety of Linnæus's Conduct, in arranging this Plant not with the *Thlaſpi*, as had been uſual, but with the *Iberis*.

Its four longer Filaments ſhew it to be one of the *Tetradynamia*; and the Shape of the Seed-veſſel throws it into that Section which comprehends the *Siliculoſæ*.

The *Tetradynamious* Claſs is not divided according to the Number of Styles, as moſt of the others; but comprehends, under two diſtinct Sections or Orders, the *Siliquoſe* and *Siliculoſe* Plants; the *Siliquoſe* are thoſe whoſe Fruit is a long Pod, and that terminated without any particular Point from the Remain of the Style.

The *Siliculoſe* are thoſe whoſe Seed-veſſel is ſhort, and is terminated by a conſpicuous and large Point, the Remain of the Style. This therefore belongs to the latter Order.

Culture of this Iberis.

It is a Native of *Perſia*, and was thence brought early into the Gardens of *Italy*, whence ſcatter'd Seeds, which ſhot as freely as in the native Climate, ſpread it in many Places over the Fields.

In the *Eaſt* it grows univerſally in a light ſtrong Soil, upon the Sides of Hills, and is uſually moſt full of Flowers where the Ground is pooreſt.

The Method by which it is brought to greateſt Perfection, is raiſing it in Pots, and ſheltering it in a Greenhouſe in Winter; where it will flower without Intermiſſion.

The Compoſt beſt ſuited to the Plant, is this:

Mix a Buſhel of Mould from an upland Paſture, with half a Peck of Marle, and a Peck of Sand. If there be not Marle at Hand, a Peck and half of Pond-Mud may be uſ'd in its Place. Mix theſe well together, and fill a ſmall Pot in Spring. Sow the Seeds from warmer Climates, or thoſe ripen'd here, upon the Surface, early in Spring.

Set the Pot in a Hot-Bed that has but little Heat, and ſift over the Seeds a Quarter of an Inch of the ſame Compoſt.

Raiſe the young Plants in the uſual Manner; and when they are three Inches high, plant as many as are intended to be preſerv'd in ſeparate Pots. Shade them till they have taken Root, then harden them by Degrees to the free Air. Set them out among the Greenhouſe Plants in Summer, and take them into Shelter in *October*, placing them near the Windows, that they may have as good Air as can come into the Place. They will thus flower throughout the Winter.

The Plant is hardy enough to bear the Air with leſs Caution; but it thus flowers in full Perfection.

6. BLUE CLUSTER-FLOWERED ASTER.

Pl. 32. Fig. 6.

The innumerable Quantity of this Plant's Flowers recommend it to the Gardener; for ſingle they are inferior to many of the common Kinds, tho' not wholly without Beauty. Its eaſy Culture joins alſo to give it a Claim to ſome Regard, and with theſe the Duration of its Bloom.

The Writers on Botany have been long acquainted with it. They call it *Aſter Tripolii flore*, *Aſter minor Tripolii flore*, and *Aſter latifolius Tripolii flore.*

Linnæus is oblig'd to give a longer Name; the great Number of Species under this Genus render'd it unavoidable. He calls it *Aſter foliis lanceolato-linearibus ſubcarnoſis, integerrimis, planis, floribus corymboſis faſtigiatis, pedunculis folioſis:* *Aſter* with fleſhy, plane, undivided, narrow and ſpear-pointed Leaves, with cluſter'd Flowers on the Top, and leafy Footſtalks.

The Name broad-leav'd might miſlead the Student; but he is to be told it is not given this Plant in an abſolute Senſe, but relative to one with graſſy Leaves. Linnæus's Name is diſtinct and valuable with all its Length.

The Root is oblong, ſlender, blackiſh, and furniſh'd with innumerable tough Fibres.

The Stalk is upright, firm, and a Foot and half high: the Rind is brown, and it has a light Pith within.

The Leaves are very numerous, and plac'd irregularly from the Bottom to the Top: they are long, narrow, nearly of equal Breadth all the Way, but pointed at the End. Their Colour is a duſky green. They have large whitiſh Ribs, and they are of a fleſhy Subſtance.

The Flowers ſtand on the Summits of innumerable little Branches, which ſpreading every Way from the larger Diviſions of the main Stalk, form a vaſt Tuft, reſembling an Umbel. They are moderately large, of the radiated Kind, and have the Ray of a fine blue, the Diſk yellow. The Seeds are ſmall, and winged with Down.

We have treated before of ſeveral of the compoſite

poſite flower'd Plants; and the Student needs not now be told at large that he is to ſeek the Characters of the Claſs in the ſeparate Floſcules which form the Diſk.

Let him obſerve theſe, and the radiated ones which make the Verge; but firſt the general Cup: this he will find compos'd of numerous ſmall Scales, laid like the Tiles of a Houſe, over one another; and the Points of the outer ones prominent.

In the Diſk he will find tubular Floſcules, which have the Male and Female Organs; and on the Verge flat and ligulated ones only with female. In the tubular Floſcules are convergent Buttons, five in each, ſupported on ſhort ſlender Filaments, and a Style of equal Length, ſplit at the Top, and riſing from the Rudiment of a Seed.

In the female or ligulated Floſcules of the Rim, are no Filaments or Buttons; but there is a ſingle Style from the Rudiment of a Seed, divided at the Top into a curl'd Stigma.

The Coaleſcence of the Buttons in the tubular Floſcules ſhews the Plant one of the *Syngeneſia*: to know in which Section it is plac'd, he muſt obſerve the ripening of the Seeds: he will find theſe ſucceed the Flowers of the Diſk, and alſo thoſe of the Rim.

The Buttons of the tubular Floſcules therefore impregnate their own Rudiments and thoſe in the others: therefore the various Impregnation is not neceſſary; and the Plant is refer'd to that Section, containing the *Polygamia Superflua.*

Culture of this Aster.

It is a Native of *Spain*, *Italy*, the South of *France*, and many other Parts of *Europe*, and is univerſally found in a light dry Soil.

In our Gardens it will require little Care more than the firſt planting. Let a Piece of a Border be choſen open to the Morning Sun, and ſhelter'd from its full Beams at Noon, as well as from cold Winds.

Let the Mould be dug out two Spades Depth, and dry Paſture-Earth, without any Mixture, put into its Place. Scatter over the Surface a little of the common Garden-Mould, to colour the Place like the reſt of the Ground, and plant ſome parted Roots at two Foot Diſtance.

The beſt Seaſon for this is the End of *September*. They will need afterwards only to be kept clear from Weeds, and at Times water'd, and they will flower a great Part of the Year.

As the Roots encreaſe faſt, they ſhould be taken up once in three Years, and parted; and at this Time the Mould ſhould be dug out of the Border, and freſh put in its Place. Thus they will continue in Vigour, otherwiſe they will run into vaſt Tufts, and produce Abundance of Stalks, but few fine Flowers.

If Roots are not to be had, the Seeds will ſhoot very freely. The beſt Seaſon of ſowing them is *Auguſt*; and the Plants, being left at two Foot Diſtance, when the Bed is dreſs'd in Spring, will flower the ſucceeding Seaſon. If the Stalks of thoſe which flower earlieſt be cut down before the ſetting for Seed, others will riſe, and continue the Succeſſion a long Time.

CHAP. II.

The Care and Management of the Flower-Garden.

THE Auriculas will now be promiſing their Bloom very ſpeedily, and they muſt be treated with great Attention.

Where there are Slips fit for taking off from the Mother Plants, let that be done this Week. There muſt be Care taken not to diſturb or injure the Mother Plants, and they will be the ſtronger for this Removal, the Roots having leſs to nouriſh.

Fill as many ſmall Pots as there are Slips, with the Compoſt we have directed to be us'd for the Auriculas; and plant carefully in each one Slip.

Let them be planted immediately as they are taken off from the old Plants, and let them have a gentle Watering; they ſhould then be ſet in a ſhady Place to root.

The beſt Time of doing this is in the Evening of a cloudy Day, and they muſt be water'd every other Evening till they are rooted.

Thoſe which have moſt Fibres will ſucceed beſt; and if they are found not to take kindly, it will be proper to ſet the Pots in a Hot-Bed Frame, and nurſe them with the ſame Care that is taken of tender Exotics; covering the Glaſſes with Mats till they are well rooted; and then they muſt be by Degrees accuſtomed to the open Air.

This Care is very well worth taking of the Slips of the fineſt Kinds; for when once rooted there is no Danger of their thriving.

If there be any Part of the Garden where Ever-greens are wanted, let them be brought in this Week, chuſing for the Purpoſe the Evening of a cloudy Day. They muſt be planted immediately on taking them up, and the Succeſs will then depend on two Things, The keeping the Mould in a due Degree of Moiſture about their Roots, and defending them from the Sun and parching Winds.

Let a large Hole be open'd for each, and the Earth very well broke in its Bottom. Let the Tree be brought with a Ball of its own Earth, and before it is ſet in, let a good Quantity of Water be pour'd into the Hole; and the looſe Mould at its Bottom well wetted and worked up with it: then ſet in the Tree, fix it carefully upright, and it will be eaſily ſettled among the wet Mould of the Bottom. Throw in the reſt carefully; and when the Roots are well covered, and the Mould is brought to the common Level, raiſe ſome more round about it, at a Foot and half Diſtance, ſo as to make a kind of Baſon to detain the Water, and give a good Watering, by a little at a Time. Then throw a Quantity of Peaſe-ſtraw over the Place, and once in three Days repeat the Watering.

Some Weeks ago we directed the putting ſome Tuberoſe Roots into a Hot-Bed, to forward them for the earlieſt Flowering: this Week it will be proper to put in ſome more, treating them in the ſame Manner: they will come into Flower as the others are going off, and by this Means there will be a Succeſſion of them for a very conſiderable Time.

Look carefully to the Annuals in their Hot-Beds, and by Degrees inure them to the Weather. Every tolerable Day admit the Air to them about Noon, according to their Strength and Condition, and drawing up the Mould to their Stem.

The Gardener ſhould keep continually in his Mind the whole Intent of his Work: theſe Plants are to be ſtrengthned to bear the open Air, and the ſooner that is begun the better. If they be kept too cloſe, they will draw up weak and ill-ſhap'd; but the more Air is admitted now, and the more their Stems are ſtrengthen'd, the ſtronger they will be, and fitter for their intended Places.

This needful Care taken for future Time, the Gardener is to conſider what is immediately approaching. The Ground has been in a Condition of little Value to the Owner, and the Seaſon has permitted him to make ſcarce any Uſe of it for many Months, but a better Time is approaching: the mild Weather will call him out to walk, and the Spring Flowers entice his frequent Viſitation.

For this the Labour of the Autumnal Plantation has been employ'd in the Borders; for this, the Seedlings of many Years rais'd in their ſeparate Beds: they will now repay the Labour. The hardier Flowers will open in the common Borders, and the *Ranunculus's* and *Anemonies*, the *Hyacinths* and *Tulips*, the *Auriculas*, and the whole Glory of the Spring, will be in Flower, or in the immediate Promiſe of it.

Let all be now clear'd and put in Order, that the Proprietor may enjoy them.

The Borders ſhould this Week have a perfect Cleaning, not the Rudiment of a Weed ſhould be left: the decay'd Leaves that may hang about the Roots ſhould be taken off. Let the Mould be drawn in carefully about the Heads of the Roots, and the reſt rak'd and laid level. Probably the Spring Showers will ſupply the farther Care of Watering, if not, let it be done every Day.

Let the Beds of choice Flowers be kept perfectly clean; and let them ſtill have the Shelter of their Mats at Night.

This done, and all prepar'd for the Eye of the Proprietor, let the next Care be for his Feet. Let the Gravel-Walks be well roll'd, and eſpecially after Rain, that the Whole may bind. Thoſe that have been broke up for the Winter will particularly require this Care; for they will not at the firſt Laying get that Hardneſs which is neceſſary for walking with Satisfaction.

The frequent Mowings of the Graſs muſt be continued; and a careful Eye muſt every Day or two be carry'd thro' the whole Ground, to keep Things in the neat and perfect Order wherein we have from Time to Time directed them to be put.

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SECTION II.

The Management of the NURSERY, *for this Week.*

If there be any of the Evergreens that were to be tranſplanted this Seaſon, yet left in their Places, this is the laſt Opportunity the Gardener will have for removing them; and he muſt atone for his Neglect hitherto by more than uſual Care of them.

The Work muſt be perform'd in an Evening, and with great Expedition. The Holes muſt be opened for them before they are taken up; and the Bottom wetted to receive them immediately as they are brought from their Bed. The Ends of the ſmall Fibres muſt be ſnip'd off juſt as they are put in; and they muſt be ſecur'd from Danger by repeated Waterings.

This is a very good Seaſon for propagating the finer Kind of Hollies, by Grafting. They are to be grafted upon the common Holly-ſtock; and about five Years is a good Growth for the Stock. According to the Seaſon this Work may be perform'd, either now, or a Fortnight or three Weeks ſooner; but in ſuch Seaſons as the preſent, it is beſt at this Time.

Let the Trees grafted laſt Seaſon be now carefully look'd over. They will not grow ſo perfectly as Shoots from the natural Stock; and we have told the Gardener before, that the weaker the Growth, the more is the Danger from Inſects, which at this Seaſon are very pernicious. He will in many Places find the Leaves curling up, and the Buds looking blighted: there is juſt Time for him, upon this Notice, to ſave them. Let him ſprinkle them with that Infuſion of Soot and Tobacco which we directed, and repeat it daily till the Inſects are deſtroy'd. He will ſoon ſee where it takes Effect, and where it does not.

Wherever he ſees a Bud or Cluſter of Leaves too far gone for Recovery, let him take them off; and the Place being waſh'd with the ſame Liquor, the Infection will be ſtop'd from ſpreading.

Let a careful Hand be employ'd to weed the

Autumnal Seed-Beds of Trees and Shrubs. The young Trees will in many Places begin to appear, and they will be choak'd by the wild Growth if not carefully clear'd. Let the Perſon employ'd in this be made perfectly ſenſible of the Form of the young Trees, that none of them may be deſtroy'd in the Weeding.

When the Ground is clear'd and looſen'd, as it always is by taking up Weeds, let there be a gentle Watering every other Day. The Gardener will be ſurpriz'd at the Effect of this timely Dreſſing; a Week will ſhew a hundred promiſing Shoots, where there were not at firſt half a Dozen.

Some of the Pines which do not riſe favourably from Seeds, may this Month be propagated by Grafting. The common and ſimple Method is not to be us'd on this Occaſion, but that call'd *Grafting by Approach*, and by ſome *Inarching*. To this Purpoſe, the Stock and the Tree which has the Bud muſt be ſo near, that the Parts to be join'd may be brought to touch one another.

The Stock being ſome of the common hardier Pines, may be rais'd any where; and as the Tree from which the Graft is in theſe Caſes to be taken, is naturally in a Tub or Pot, that may be brought to it without Difficulty.

Let the Tub be brought ſo near, that a convenient Branch of the Tree to be grafted may be brought down, ſo as to touch the Stock near the Ground. Mark the Place where it eaſily joins in this Manner; and having every thing ready, a Knife for the Purpoſe, ſome Baſs wetted for the Tyeing, Clay for covering it in, and Stake for tyeing it up ſecure: chuſe a cloudy warm Day, and thus begin the Operation.

Pare away the Bark and Wood at the Place mark'd on the Branch, to the Length of three Inches: bring it down to the Stock, and mark with a Knife the exact Place where it will join: cut away the Bark and ſome of the Wood for that Space; Readineſs and Care are the great Articles for this Work: the two Parts muſt be made to ſuit one another, and no Time muſt be loſt in doing it.

Cut a little Tongue upwards in the Branch, and make a Nick in the Stock to admit it: this ſerves for faſtening them the more ſecurely. Bring the two cut Parts together, fix the Tongue in its Nick, and lay them even, that there be no Vacancy between in any Part; then draw round the wet Baſs gently, but ſecurely; and by repeated Tyeings keep the two cut Parts cloſe together: mould ſome of the Clay in the Hands, and lay it carefully on: cloſe it about by frequent preſſing; wet it on the Surface a little, and about the Edges, that it may fall perfectly even, and then cover this firſt Coat with a ſecond, carrying up the laſt Covering beyond the firſt. Thus it will cloſe all, and the Air will not eaſily crack it through.

The covering up of theſe grafted Parts is of the ſame Nature with ſhading the Beds of new planted Exotics. All is kept quiet; and the Roots in one ſtrike juſt as the Fibres unite in the other. If the Air gets in, nothing is done perfectly.

When the Clay is putting on, let the Stake be thruſt carefully into the Ground, juſt at the Place, ſo that it will come cloſe to the united Part. Let it be very firm in the Ground; and when the Clay is ſo well clos'd that no Air nor Moiſture can get in, let the Part that is thus united be brought cloſe to the Stake, and ty'd above and below the Place with a good Quantity of Baſs. It muſt not be pinch'd in either Part, but it muſt be in both Places bound firm; and this may be eaſily done when there is a ſufficient Quantity of the Tyeing allow'd.

In this Manner let all ſtand till the latter End of *Auguſt*; and the Parts will be ſo well united, that the Graft may be cut from the Mother-Tree.

It is to be done in this Manner: a ſharp Knife muſt be us'd, and it muſt be taken off with a Slope cloſe to the Stock; then the freſh cut Part muſt be again covered with ſome of the Clay. The Growth will be regularly carry'd on, and the Parts unite inſeparably.

We adviſe that the Stake be left in for a conſiderable Time, and the Parts bound to it; for the Danger is not ſoon over that might come from Winds: but with this Precaution and the common Care, the Proſpect of Succeſs is very fair, and the Tree rarely fails.

Many of the tenderer Greenhouſe Shrubs may be propagated by this Method of *Inarching*; but they have proſtituted the Intent who uſe it for the fanciful Purpoſe of producing Fruit on Seedling Plants, as has been done in the Orange and Lemon Kinds: the Thing is unnatural and the Tree commonly dies.

SECT. III.

POMONA, or the FRUIT-GARDEN.

IT is ſome Time ſince we have comprehended all that relates to the Fruit-Garden, each Week, in a ſingle Chapter; but we ſhall ſoon begin again the original Diviſion; giving a Liſt of the Products before the Management of the Trees and Ground. Hitherto, the Accounts of late Autumn only could have been continued, dropping one after another many of the Articles.

We have inſtructed the Gardener at the proper Seaſon, to preſerve ſuch of the Fruits as could ſerve the Table and the Kitchen in Winter; they are now nearly exhauſted; and Nature does not afford yet any Supply: but in this intermediate Time comes in the Aſſiſtance of Art; and there may now be had ſome of its Products in this Kind.

CHAP. I.

Fruits artificially ripen'd now in Seaſon.

WE have directed the Gardener to plant ſome of the common, and ſome few of the *Chili* Strawberries, in Hot-Beds, for an early Produce; and taught him to avoid the common Misfortune of their Bloſſoms failing without ſucceeding Fruit.

He may this Week gather his firſt Produce in the common Kind certainly; and if he have had good Luck, as well as taken due Care, he may embelliſh them with one or two of the others: at the worſt, a Plate of Strawberries is now an agreeable Sight, and they will have all their Beauty this Way, tho' not the true Flavour: to that the Air is neceſſary, but not to the ſwelling of the Pulp, or regular Figure. They will be pale, but in that there is nothing unpleaſing; and if any of the *Chili* Kind ripen, thoſe will have their Colour.

A Plate of theſe, ornamented with Leaves from the natural Strawberry Beds, and crown'd with if but one of the large *Chili* Kind, will give an Air of Summer. They muſt be gather'd about an Hour before they are eaten, that the Warmth of the Air in the Bed may go off, and they may yet retain all their Fulneſs; and it will improve their Flavour greatly if a very ſmall Quantity of treble refin'd Sugar, beat to fine Powder, be ſprinkled over them juſt as they are ſent in. This will not be perceiv'd by the Eye, nor particularly diſtinguiſh'd by the Taſte, but it will give the raw Juice, in theſe artificially ripen'd Strawberries, that Richneſs and Mellowneſs it otherwiſe muſt want.

We have hinted to the Gardener before, how much his Credit may be rais'd by a right Managenagement of gathering and ſending in his Fruit, and ſhall not leave him uninform'd in any Article.

With theſe Strawberries from the Hot-Bed, he may ſend in, from the forcing Frames, Apricots and Cherries. This little Deſert will pleaſe, becauſe of the early Seaſon, beyond all the Pomp of Summer.

The Apricot, for this Purpoſe, is that naturally early Kind call'd the *Maſculine*; a ſmall round Fruit of a browniſh Colour, and with but little of the true Flavour of the finer Kinds.

There is another which ſucceeds this Way; the tranſparent yellow, much preferable, but it requires more Attention. The *Maſculine* naturally loſes a great Part of its Bloſſoms; and the tranſparent is liable to the ſame Imperfection: they have the leſs Chance to eſcape in this unnatural Manner of bringing them forward, but the Value of an *April* Apricot makes Amends for the Pains.

The Cherries for this Purpoſe are of the *Duke* Kind: and it muſt be own'd that neither theſe nor the others have any thing like the true Flavour: but three Kinds of Fruit at ſuch a Seaſon, if they are but eatable, make a great Appearance at a Table.

* * *

CHAP. II.

The Care and Management of the Fruit-Garden.

LET the Gardener this Week look over all his Vines that are planted in the uſual Manner againſt Walls: they will be now making their Spring Shoots; and, unleſs prevented, will waſte a great deal of that Nouriſhment, intended and wanted for the Fruit, in uſeleſs and hurtful Branches.

All thoſe Shoots which riſe in wrong Places ſhould be rub'd off; and let him ſee where two are produc'd from the ſame Bud, that he may rub off one: the ſtrongeſt muſt be left; and by this Method, thus timely us'd, all the Nouriſhment will go where it ſhould, and the Fruit will be fuller and forwarder.

This laſt is an Article of the utmoſt Conſequence, in Reſpect of Vines; for there are few Years when Grapes ripen favourably: the forwarder they are, the better is their Chance. The Branches being now laid cloſe to the Walls, the bad Wood clear'd away, and nothing more left than will be uſeful, the Juices will all be deriv'd to the right Place, the Sun has its full Power, and nothing will be wanting that our Climate can give for the ripening of the Fruit.

The Peach, Nectarine, Apricot, and other Wall Fruit-Trees, are now coming forward apace, and they muſt by all Means be encourag'd. On the Strength and Fulneſs of their Bloom will depend the Quantity of the Fruit; and even the Leaves, if ſtinted in Point of Nouriſhment at this Time, will be infected with Inſects.

The great Point is to keep their Roots in a vigorous State of Growth, and the Ground, where they run, in a Condition to ſupply them. It muſt be neither exhauſted by other Things, nor left to grow hard and impenetrable.

We have told the Gardener, that all Earth of that he is concern'd with, grows hard and heavy by lying; that his Culture breaks and mellows it; and that as ſoon as it is left, it grows by Degrees hard, and cloſe again. We have told him the Advantage of breaking it about, and among the Roots of growing Plants, and theſe are the general Rules upon which his Practice now is to be founded.

He has at the due Seaſon prun'd and nail'd his Trees, and dreſs'd the Ground wherein they grow: let him now once more break it: Weeds will riſe in it, and the Trees muſt be ſo much the worſe ſupply'd for all the Nouriſhment they draw: therefore let the whole Borders wherein they ſtand, be dug up with a three-tin'd Fork, as we have directed on a former Occaſion, and the Mould thrown up looſe: this roots up all Weeds, breaks off the extreme Ends of the ſmall Fibres of the Roots, and gives them a freſh Mould wherein to ſpread thoſe innumerable Shoots of new ones they ſend out on this Occaſion.

When the Mould is thus broken, let the Gardener ſprinkle on a ſmall Quantity of Wood-Soot, about a Quart to as much Ground as holds ſix Trees; then let him break all with a Rake; take off the Weeds, and lay it level. Thus will the ſmall Quantity of Soot be ſpread equally, and wrought in with the Mould, and the Rains will waſh it to the new ſhooting Roots.

If no Showers happen, for this Purpoſe, the Ground muſt be water'd once in three Days. The Trees will ſhew the Effect of this in their vigorous and lively Aſpect, the Bloom will ſet the better, and the Fruit will be the finer.

Let not the unpractis'd in Culture, ſuppoſe the Taſte of the Soot will be convey'd to the Fruit: this cannot be, but the Spirit of it certainly will; and it is wonderful how much this particular Manure, thrown in at this Time, aſſiſts the Purpoſe.

To compleat this Work, the Gardener ſhould dig up more than the Border wherein the Trees ſtand. Their Roots ſpread far. If a Gravel Walk terminate the Border, and there be cultivated Ground on the other Side of the Walk, let this, if it can, be dug up; at leaſt, let a little Soot be ſprinkled over it, and rak'd or dug in with a Trowel.

I have found, upon a careful Obſervation, that thoſe Borders at thirty Foot Diſtance from the Tree, will be full of moſſy Fibres, which are the Extremities of ſome of its Roots; theſe are ready to imbibe Nouriſhment; and often the Tree depends very much upon them. Therefore this cultivating and enriching the Ground, wherein they run, cannot fail of having the greateſt Advantages.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

WE ſhall now begin to recount the Products that come freſh into Seaſon here as in the Fruit Kind, and renew our Diviſion into two Chapters. The Winter Products are in a Manner gone, and the Spring now gives new ones.

CHAP. I.

Products in Seaſon.

THE Winter Carrots now give Place to the freſh, young, and juicy ones of Spring. Thoſe of our Autumnal Sowings may now be drawn, and will be found in full Perfection. Sprouts of Broccoli will be in Perfection, and young Turnip-Tops, of which many are fond. There will be *Dutch*, Cabbage, and ſome Cos Lettuce; Spring Salleting in Abundance; and, from the Hot-Beds well manag'd, ſome Cucumbers in perfect fine Order.

CHAP. II.

Culture and Management of the Ground.

THIS Week the Gardener muſt prepare his Ridges for Cucumbers and Melons that are to be rais'd under Bell-Glaſſes: let him not ſpare Dung, much leſs Labour, for this will always be very well repaid.

The Quantity of Dung muſt be proportioned to the Number of Holes intended; and the beſt Proportion I have found, is a Load to every five Holes: this muſt be thrown up with ſome Aſhes, as we directed for making the Hot-Beds; and when it has lain a Week it will be fit for Uſe.

Count the Glaſſes intended for one Row, and mark out a Trench as many Yards in Length as there are Glaſſes, with the Allowance of their Breadth; for the beſt Way of putting them is at a fair Yard Diſtance. The Width is to be two Foot nine Inches. The Plants are now vigorous, as we directed them to be rais'd; and having their rough Leaves, they are ready for this Planting. Let the Depth of the Trench be five Inches; and, if in a moiſt Soil, leſs.

Throw in the Dung, and ſpread it in as in making a Hot-Bed; lay the Top even, and level the Sides; then meaſure the Diſtances for the Holes, and in each Place lay in a Baſket of Earth freſh from a good Heap of rich Mould, ſtick up a Stake in the Middle, and ſet on the Glaſs.

This done, cover the reſt of the Ridge with the Mould that was thrown up in making the Trench; and if there be not enough of this to give it a Coat three Inches thick, bring on ſome more to compleat the Covering.

Let the Glaſſes remain fifty-ſix Hours upon the Bed, then bring in the Plants.

Place two for each Glaſs, levelling the Hill of Mould at Top; and when they are planted raiſing a Ridge of Earth, like a Baſon, to hold Water.

Shade them till they have taken good Root, watering them gently at Times; and this muſt be continued till they have acquired good Strength, and ſpread luxuriantly.

When a large Quantity of Melons and Cucumbers is intended to be rais'd this Way, many of theſe Ridges may be made in the ſame Manner: their Diſtance ſhould be five Foot from one another, and the Management of the Plants entirely the ſame.

Let the Gardener now put in another Crop of French Beans into the natural Ground. He muſt chuſe a warm and ſheltered Place, and guard the young Plants when they appear, from Slugs and other Devourers. There is no kind of Crop that ſo much requires theſe frequent Sowings, and this for many Reaſons. None is ſo apt to rot in the Ground, none is in ſuch Danger of being devour'd as ſoon as the Plants appear, nor is there any which will come ſo acceptably to Table in repeated freſh Growths.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XXXIII.

For the firſt Week in *MAY.*

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Flowers and curious Plants now in their Perfection.

1. BLOOD-RED ANEMONE.

May.

Pl. 33.
Fig. 1.

WE have told the Gardener, on a former Occaſion, that Nature affords few diſtinct Species of the Anemone; and that the Variety he ſees, like that he raiſes by his own Application, is the Effect of happy Culture. Nature is herſelf very luxuriant in this Kind of Plant.

The little wild Anemony that ſhews its milky White, or lightly bluſhing Flower in our Woods and Thickets, has often more than its due Number of Petals; ſometimes it is abſolutely double: no Wonder therefore that its Varieties are excellent and are unnumber'd, when every thing that can contribute to feed this natural Luxuriance is given to it. When only Seeds of fineſt Flowers are ſown; when Compoſts ſuited to its Nature, but enrich'd far beyond what Nature ever gave, are allow'd to it; and Warmth and Shelter, and Defence and Sun, when needful, are given it, Year by Year, with an unwearied and diligent Hand: hence have ariſen the various Improvements of our Artiſts, Flower exceeding Flower; and hence they will riſe innumerably: becauſe from better Flowers the ſame Art will yield ſtill richer Improvements.

We have told the Botaniſt how many riſe from the common Stock of the fine-leav'd Anemone, and this is one of them. Fantaſtic Gardeners have call'd it the *Princeſs*, and the *bleeding Princeſs*, Names not to be repeated but in Deriſion. It departs little from the original Plant, except in the glorious Red with which it is colour'd, and in the Firmneſs of the Stalk; and is the Kind call'd by common Writers, *Anemone tenuifolia flore rubro:* by LINNÆUS, and the more Correct, *foliis radicalibus ternato decompoſitis, involucro folioſo:* Anemone, with the Bottom Leaves ſubdivided by Three's, and with a leafy Involucrum.

May.

The Root is thick, irregular, brown, and hung about with innumerable Fibres.

The firſt Leaves are large, and plac'd on a divided Rib; they are cut into a Multitude of ſmall oblong Parts by Three's; and are in Colour of a freſh and lively green.

The Stalk is thick, firm, a Foot high, tolerably upright, of a pale green, freely ſtain'd with a purpliſh Red; and a little above its Middle grows one leafy Subſtance. This is of a deeper green than the Leaves which riſe from the Root, and is divided into many Segments in the ſame general Manner, but with leſs Regularity.

At the Top of the Stalk ſtands one Flower, large and conſpicuous by its bright and glowing Colour. 'Tis of the Bigneſs of a ſingle Roſe; in

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Colour of the ſtrongeſt bloody Red; and in the Centre vary'd with a Number of yellow Buttons, plac'd on ſlender Filaments.

The Petals in the Flower are ſix, and they are diſpos'd in two Series, three in each: they ſtand fully expanded; and tho' they want the rich Luſtre of the double Kinds, have yet very conſiderable Beauty.

There is no Cup. The leafy Involucrum on the Stalk, tho' ſo remote, is of ſome Service in the Defence of the Flower, and is all Nature has given for that Purpoſe.

We have told the Botanical Student he is to trace thoſe numerous Filaments, which appear in the Centre of the Flower, to their Inſertion, in order to know the Claſs of the Plant. He will find them independent of the Petals; and there is no Cup from whence they ſhould proceed: they grow from the Receptacle of the Flower; and the Plant is one of the *Polyandria.*

Among theſe riſe many pointed Styles, from ſo many Rudiments of ſucceeding Seeds: this ſhews it to be of that Order which comprehends the *Polygynia.*

The Seeds follow in a naked Cluſter.

Culture of this ANEMONE.

It would be vain to give a Rule for raiſing this particular Anemone. It is a ſeminal Variety of the common fine-leav'd Kind; and the Gardener who ſows the Seeds from a good Flower of that Plant, will find this among others. If he miſs once, he muſt repeat the Sowing, and ſelect the Seed the next Time from a Flower that has a good red Colour.

Thoſe Seedlings, which, when they flower, ſhew the true bloody Tinct, muſt be planted out ſeparate; and to the common Compoſt, in which we have order'd this Plant to be rais'd, there muſt be added ſome very old Cow-dung, in a larger than ordinary Quantity. They muſt be ſet at a Foot Diſtance; and every Year, when the Leaves are decay'd, they muſt be taken up in the uſual Manner; and, when planted again, it muſt be in freſh Ground of the ſame Kind with the firſt.

This will preſerve their Beauty in its full Luſtre; and they muſt be encreas'd only by parting of the Roots. The Seeds ſav'd from the fineſt of them we ſhall direct to be ſown; but they are for another Purpoſe: they will raiſe nobler Flowers, and the Produce of the ſame with that from whence the Seeds was ſav'd, would be altogether uncertain: therefore let the Gardener, for this high ſtain'd ſingle Flower, afford every Year a freſh rich Bed of Compoſt, and part the Roots, when they are ſo well encreas'd as to bear it: Preſerving the Flower in its original Luſtre, for its own Sake, and for that of many Kinds to be rais'd from its Seeds.

2. LOW STAR OF BETHLEHEM.

Pl. 33. Fig. 2. This is a very elegant Plant, ſo well adapted to our Climate, that little Culture ſerves to raiſe it; and it has ſo much of the Aſpect we ſee in thoſe of our own Growth, that it gives a pleaſing Variety among the nobler Kinds.

Its Roots, when thrown by Chance out of Gardens, will take their Growth ſo freely among the Graſs, or under the low Hedge, that it has been eſteem'd by ſome a Native of our Country: this, however, is an Error; and 'tis not in thoſe Places the Flower ſhews its true Beauty.

The old Writers all have known it; they have call'd it *Orinthogalum vulgare*, *Orinthogalum medium*, and *Orinthogalum majus.* Common is no Addition for this Diſtinction; and the Judicious ſee in this Inſtance, how ill adapted Terms they are which only denote Bigneſs. The ſame Plant may be, as this is, large in Compariſon of ſome Species of the ſame Genus, ſmall to others, and in the general of a middling Size.

LINNÆUS names it after another Manner, *Orinthogalum floribus corymboſis, pedunculis ſcapo altioribus, filamentis emarginatis:* Corymboſe-flower'd *Orinthogalum*, with Footſtalks riſing above the main Stem, and with nip'd Filaments. A Name diſtinguiſhing the Plant from all others, and conveying a Deſcription.

Some have call'd it *Umbellate Star of Bethlehem:* it is the ſame Meaning theſe would convey, that LINNÆUS gives in the Term *corymboſe*; but the Word *umbellate* is amiſs: the Flowers of this Kind grow in ſhort Tufts or Cluſters, not in long Spikes, as thoſe of many others of the ſame Name; but theſe Tufts are not Umbels, for the Footſtalks riſe one above another, not from the ſame Point.

The Root is a Bulb, ſomewhat oblong, of a whitiſh Colour, full of a ſlimy Juice, and of a bitteriſh Taſte. Uſually there are three or four ſmaller Bulbs about the principal, for the Plant propagates itſelf this Way abundantly; and from the Baſe run many thick white Fibres.

The Leaves are numerous, and in themſelves not deſtitute of Beauty: they are long, narrow, obtuſe, and of a firm and ſomewhat fleſhy Subſtance: they ſpread themſelves in various Forms, upright, procumbent, ſtrait, bent, and drooping. Their Colour is a moſt perfect and ſtrong green; and along the Middle of each runs a conſpicuous Line of milky white.

Among theſe riſes the Stalk, more upright than the Leaves, but not exceeding them in Length: it is ſix or ſeven Inches high, round, firm, erect; whitiſh toward the Ground, elſewhere of a pale and pleaſing green.

The Flowers crown it in a conſiderable Cluſter, each plac'd upon its ſeparate, long, and ſlender Footſtalk, and the uppermoſt of theſe riſes conſiderably above the Top of the Stem. There are

no

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no Leaves, properly ſo call'd, upon it; but at the Baſe of each Footſtalk of the Flowers, there is an oblong filmy Subſtance; a kind of baſtard Leaf of a greeniſh white.

The Flowers themſelves are conſpicuous, more by their milky Whiteneſs than their Size, tho' the whole Cluſter is not little. 'Tis only their Inſide that has this plain Colour; for on the Back they have on each of the Petals a broad Rib of green.

The Student will examine the Flower with a more ſtrict Attention, and he will find his Trouble well rewarded.

There is no Cup. It riſes with a plain Baſe immediately from the Footſtalk, and is compos'd of ſix oblong, pointed, and moderately broad Petals.

The Filaments are ſix, and they are of a ſingular Form, broad at the Baſe, and alternately nip'd at the Top, ſo that the Point appears trifid, and the Button ſupported on the Middle Piece. This is a very ſingular Structure.

In the Midſt of theſe riſes a ſingle Style, crown'd with an obtuſe Top; and the Seed-veſſel which follows is of a rounded Form, divided into three Cells; with a columnar Receptacle, and many roundiſh Seeds.

The ſix Filaments ſhew the Plant one of the *Hexandria*, and the ſingle Style one of the firſt Section of that Claſs, the *Monogynia*.

Culture of this ORINTHOGALUM.

We ſhall bring the Reader acquainted with *Orinthogalums* that demand a careful Management; but we have ſaid before, the Culture of this is eaſy. 'Tis in our Gardens however too much neglected, and we ſhall ſhew our Pupil how, with a very little Trouble, he may give it an Appearance very much above what is uſually ſeen.

It is, if not of *England*, a Native of Parts of *Europe* as cold: *Germany* abounds with it; and it flowers with vaſt Perfection in many other of the Northern Nations: univerſally it is found where there is a rich black Soil, and ſome Shade. Let this give the Rule for their Culture.

Let the Gardener mix up two Barrows of black Mould, from under the Turf in a Meadow, one Barrow of River Mud, and a Buſhel of old Wood-Pile Earth: this will be rich, and will preſerve, as well as feed the Roots. Dung, which is commonly in the Mould where they are planted, deſtroys them. Let theſe Ingredients be well mix'd together, and expos'd to the Winter's Air; and that of the firſt Months of Summer.

May.

In the Beginning of *July* let the Gardener chuſe a Piece of a Border, open to the Morning Sun, ſhaded from Noon, and ſhelter'd from cold Winds. Here let him dig out the common Mould, and put in the Compoſt.

Let him draw Lines lengthway and a-croſs, at eight Inches Diſtance; and in the Centre of each Square plant a good Off-ſet from ſome well-eſtabliſh'd Root. Let the Roots be taken up for the Purpoſe, and the Off-ſets planted immediately after they are ſeparated. Open a Hole for each with a Trowel, and cover them two Inches above the Crown.

Theſe planted for an immediate Stock, let there be ſown in *Auguſt* upon the ſame Bed, near the back Part and Edges, and at a Diſtance from the planted Roots, ſome Seeds ſav'd with Care from a flouriſhing Plant. They muſt be ſcatter'd lightly on the Surface, and cover'd with a Quarter of an Inch of the ſame Mould ſifted over them.

Thoſe who are nice may do this on a ſeparate Piece of Ground in the Nurſery; but as the Situation is well choſen, and the Soil adapted here, the young Plants will be eaſily manag'd with the others, and they will make no unpleaſing Appearance.

The next Spring the Off-ſets will moſt of them flower; and the following Seaſon more ſtrongly. The Seedlings will be taking their Growth at the ſame Time, and they will need only the common Care of being thin'd where they are too cloſe, weeded and water'd with the reſt of the Bed; and at Autumn to have a light Covering of freſh Mould ſifted over them. This will ſtrengthen the Off-ſets for Flowering, as well as nouriſh the Seedlings; and after three or four Seaſons the young ones will flower.

A freſh Parcel of Compoſt muſt be got ready in the Middle of *July*, and all the former dug out. The old Roots muſt be planted in other Parts of the Ground, and the fineſt of the Seedlings ſet in the Bed at the ſame Diſtances as were allow'd to the other Roots: theſe will flower in the utmoſt Perfection.

3. DOUBLE CRIMSON ANEMONE.

Pl. 33. Fig. 3.

This Child of Culture, and worthy Favourite of the Gardener's Fancy, is the Offspring of the Blood-red Anemone we juſt deſcrib'd: 'tis therefore we have plac'd it near; and it has the ſame Merit with its Parent Kind of early Flowering.

Tho' a double Anemone, and a very elegant one, it is hardy: little Culture ſerves to raiſe and to continue it in Beauty, and it will flower in the moſt unfavourable Seaſons.

'Tis not at Random we declare it the Offspring of the ſingle Blood-red Kind; we have ourſelves rais'd it from the Seeds of that Flower; and that in its full Beauty.

Gardeners have call'd it the Double Red, the Early Red, and the Double Princeſs; but theſe vague Names deſerve little Regard. The Stock from which it is rais'd is the common fine-leav'd Anemone, and thither the Student muſt refer it.

The Root is brown, thick, irregular, whitiſh within, and hung with many Fibres.

The firſt Leaves are divided, in a ternate Manner, into numerous ſmall Segments, and their Colour is a fine freſh green.

The Stalk is round, weak, and ſix or eight Inches high, rarely much more: its Colour green, ſtain'd lightly with red, eſpecially in that Part near the Ground. The Middle of this Stalk is adorned, as in the others, with the leafy Involucrum: this ſurrounds it at the Baſe, and is divided irregularly, in the ſame ternate Manner as the Leaves, into numerous ſmall Segments of a paler green.

The Top is loaded with a large and heavy Flower, too much for its perfect Support. It naturally droops a little, and it is extremely pretty.

Six Petals, diſpos'd of two Series, compoſe the outer Part, as in the ſingle Kind; and they are in Colour of the moſt delicate Crimſon: not of the full Blood-red of the other, but of a fine glowing though tender Colour, diverſify'd with Streaks of a more perfect red, and of white.

In the Midſt ſtand ſmaller Petals, altogether innumerable: they are oblong, pointed, and of a very pleaſing Colour, deeper than the outſide Petals, but of the ſame kind of red; and ting'd in different Degrees with greeniſh and whitiſh. They ſtand in a great many circular Series, filling up the Body of the Flower; and they compoſe a large half rounded Body. The three innermoſt are erect; the ſeveral ſurrounding Series, except the two or three outer ones, are convergent; and theſe laſt ſpread themſelves out upon the Baſes of the other Petals.

The Characters of the Flower are the ſame with thoſe of the plain and ſingle Kind, to which it owes its Origin: the Filaments are often obliterated from the vaſt Multiplicity of the Petals.

Culture of this ANEMONE.

The raiſing of this, which is one of the hardieſt of the Double Anemonies, will lead to the Culture of the more elegant and ſpecious Kinds, of which we ſhall ſpeak in a ſucceeding Number; for the Practice will be in general the ſame, tho' more Care is requir'd for the raiſing thoſe more tender Varieties.

In the Seaſon of the Blood-red Anemonies flowering, let the Gardener look over his Plants, and mark for Seed thoſe which have the largeſt and deepeſt-colour'd Flowers, the firmeſt Stalks, and in general, the beſt Aſpect of Health and Vigour.

Let him forward the ripening of theſe Seeds, by watering at Times, and by breaking the Mould about the Plants with a Trowel.

When full grown and a little harden'd, let him cut them off, and lay them on a Shelf in an airy Room; and when they begin to fall from the Head, let him ſhake them off entirely, then ſpread them ſeparate to harden; and after a few Weeks lying thus, tye them up in Papers, to be ready for Sowing.

Mix up a Compoſt thus:

Put together a Load of Paſture-Mould, taken from under the Turf in a hilly Place, and not too rich, and a Quarter of a Load of old rotted Cow Dung: add to theſe three Buſhels of Wood-pile Earth, the ſame Quantity of Pond Mud, and the ſame of large, coarſe, but clean Sand: it ſhould be either River Sand, or Pit Sand waſh'd, by pumping upon it till the Water runs off clear.

Let this be put together in Autumn, and turn'd two or three Times during Winter, that it may be ready for the ſowing of theſe Seeds the following *Auguſt*.

Chuſe a Spot in the Nurſery that is open to the Sun from its riſing till toward Noon, but not to the full Blaze of the Middle of the Day: let it be in a riſing Part of the Ground, and digging out the Mould throw in this Compoſt.

Level the Surface, and then prepare the Seeds for ſowing, by mixing them with a Quart of the Mould dry'd a little, and rub'd to powder.

Rub the Seeds well among this between the Hands, and in a ſtill Evening ſcatter them evenly over the Ground. Sift upon them a Quarter of an Inch of the Mould; and throw a few Pieces of looſe Hawthorn Buſhes to defend the Place from accidental Injuries.

If the Weather be very dry, give them once in a Week a ſlight and careful Watering: this muſt be done with a Pot that has very fine Holes; and it muſt be held near the Ground, and moved ſwiftly: if the Bed be water'd careleſly, half the Seeds will be waſh'd out of the Ground.

In the Beginning of *October* the Plants will appear, and they will continue coming up ſeveral Weeks. Let the Buſhes be lifted off, and the Weeds very carefully pulled up by Hand; then lay on the Buſhes again; and when the Froſts grow ſharp, let a Mat be drawn over the Bed every Night, and taken off in the Morning.

The young Plants will make ſome Progreſs during Winter; in Spring they muſt be weeded and water'd at Times. In this Manner they muſt be nurs'd till the following Year, and then in the End of *May* they muſt be taken out of the Ground. This is to be done by ſifting the Mould, and the Roots muſt be laid to dry in the Manner of thoſe of larger Growth when taken up after flowering.

Let them be kept out of the Ground till the End of *Auguſt*, and then planted at four Inches Diſtance in a Bed of the ſame Compoſt. Many of them will flower the following Spring; and almoſt all the Seaſon after. There will be ſingle ones in a great Variety of colouring from the deep Blood-red of the original Flower to white; and there will be ſeveral double ones of this true kind that we have deſcribed here. Theſe muſt be mark'd, and when the Flowers are faded, and the Leaves grown brown, they muſt be taken up for planting the ſucceeding Autumn in the Beds.

4. PAINTED AMETHYSTINE TULIP.

Pl. 32. Fig. 4. The Tulips like the Anemonies, innumerable as they are in our Gardens, are the Off-ſpring of a very few original Kinds. We ſhall deſcribe ſome of the moſt ſingular, but caution the young Botaniſt againſt ſuppoſing them ſo many Species. This and a Thouſand others will riſe from the Seed of one of the good early Tulips, and it is one of the largeſt and fineſt of them all.

The earlier Authors have called it, *Tulipa præcox major*; it is named by many others, *Tulipa præcox Amethyſtina varia:* thus JOHN BAUHINE and TOURNEFORT have called it. It is one of the common Stock from the broad-leav'd Tulip, diſtinguiſh'd by LINNÆUS under the Name *Tulipa flore erecto foliis ovato lanceolatis*, upright flower'd Tulip, with oval Spear-pointed Leaves.

The Root is bulbous, of an oblong Shape, white within, and cover'd with a brown Membrane. The Leaves are large, broad, oblong, hollowed, pointed at the End, and of a pale greyiſh green, they are waved at the Edges, and they appear duſty.

The Stalk riſes in the Midſt of theſe, and is firm and upright, fifteen Inches high, of a pale green Colour, duſted with a grey Powder, and there are on it two or three Leaves perfectly like thoſe from the Root, but ſmaller.

At the Top ſtands one Flower, large, and of a true and fine Shape, equal in that reſpect to moſt of the late Tulips, and ſuperior to many of them in colouring.

The Petals which form it are ſix, and they are placed in two Series, three outer and three inner. The three inner ones are ſomewhat larger than the outer three, and are more perfectly colour'd. They are diſpos'd ſo as to form a kind of Bell, handſomely rounded at the Bottom, and in their Courſe upright, ſcarce turning at all outwards, or bending inwards.

There is no Cup to the Flower; it riſes naked at the Head of the Stalk, but the Firmneſs of the Petals, and hollow'd Form of the whole, are very well calculated to preſerve the Parts of Fructification without that Aſſiſtance.

In the Centre riſe ſix Filaments, crown'd with very long and large Buttons of a browniſh Colour; and in the Midſt of them is placed a ſingle Stigma of a triangular Form, and divided as it were into three Parts; there is no Style, but this is fix'd on the Top of the Rudiment of the Seed-veſſel.

The Ground Colour of the Flower is a pearly grey, with a Tinge of faint crimſon diffus'd all over it; and the whole Body, inſide and out, is beautifully variegated with a deeper Tinct, with ſome Admixture of blueiſh. This is the true Amethyſtine Colour, it is diſpos'd in Stripes, Streaks and Blotches, with a very pleaſing Irregularity. The Stripes are broad, and they begin from the Bottom of the Flower, and are continued to the Top: the Streaks are ſlenderer, and loſe themſelves at a ſmall Diſtance from the Top; and the Blotches which are oblong, waved, and clouded, loſe themſelves in the ſame Manner, at a ſmall Space from their Origin, which is principally at the Edges of the Petals, near their Top.

The ſix Filaments and ſingle Style ſhew the Plant one of the *Hexandria Monogynia*. Its Culture we ſhall deliver at large with that of the other Tulips in our next Number.

5. YELLOW ASPHODELL.

Pl. 32. Fig. 5. A Plant well known in our Gardens, and very well deſerving its Place in them; ſpecious, and of eaſy Culture: bearing without Shelter the Severity of our worſt Seaſons.

The Botaniſts of all late Times have been well acquainted with the Plant, and they have agreed to call it by the ſame Name *Aſphodell*, *Aſphodelus*, to which they have added the Colour of its Flowers as diſtinctive from other Kinds, *Yellow Aſphodell*. Some from its erect Form and golden Aſpect, have named it *Haſtula Regia*, whence the vulgar *Engliſh* Name, *King's Spear*, a literal Tranſlation of that Term.

Others after CAMERARIUS make it the Female of the *Aſphodels*, and name it as he does *Aſphodelus fœmina*, but there is no Foundation in Nature for this Diſtinction.

LINNÆUS in the Place of theſe vague and arbitrary Titles, names it *Aſphodelus caule folioſo foliis fiſtuloſis triquetris*; leafy ſtalk'd Aſphodel, with three corner'd hollow'd Leaves. There are others of the ſame Genus, and we ſhall treat of them: this Name diſtinguiſhes the preſent Species from them all.

The Root is tuberous and yellow; it conſiſts of numerous oblong Parts connected to one common Head, and hung with thick Fibres.

The Leaves riſe in a vaſt Tuft, and are long, ſlender, and of a pale green, naturally greyiſh, often yellowiſh: they are angulated, edg'd, hollow'd, and ſharp pointed.

The Stalk is a Yard high, round, firm, robuſt, and perfectly upright.

The Leaves are placed irregularly on it, and they are like thoſe from the Root but ſmaller, and uſually paler.

The Flowers are extreamly numerous, they form a long and ſlender Spike, covering the Stalk from the Middle upwards, and ſurrounding it innumerably; Buds opening, full blown, and fadeing Flowers always cluſtering cloſe round it together.

They are placed on ſhort and ſlender Footſtalks, and are in Colour of a pure Gold yellow. They riſe without any Cup from the Top of the Footſtalk, and each appears to be compos'd of ſix oblong, broad, and pointed Petals; but they are really Segments of one Petal, for the Baſe is entire, and the Flower comes off unbroken.

In the Baſe of the Flower appear ſix little Fibres, which riſe from the Bottoms of the Segments, and form a little globular Protuberance. This the Student will know to be the Nectarium of the Flower, for he will ſee beſide it the Petal, Filaments and Style.

The Filaments are ſix, and they deſerve Attention, they are inſerted into theſe Films which compoſe the Nectarium: they are ſmaller from the Bottom to the Top, arch'd, and of different Lengths, three longer and three ſhorter. Their Buttons are oblong, and very conſpicuous.

The Style riſes ſingle in the Midſt of theſe from a roundiſh Rudiment of the Seed-veſſel, and is terminated by a blunt Stigma or Top.

The Student will diſtinctly read in theſe Parts the Claſs of the Plant, and its Place in the LINNÆAN Syſtem; it is one of the *Hexandria Monogynia*.

Culture of this ASPHODEL.

It is a Native of the warmer Parts of *Europe*, fringing the Margin of little Brooks, and hanging from the Sides of craggy Hills, where there is a light Soil, and ſome, but not too much Moiſture.

This muſt be our Rule for propagating it; and very little Trouble is required. Let a Mixture be made of two-thirds light Paſture Earth, and one-third Pond Mud, add to half a Load of this a Buſhel of rotted Cow Dung, and the ſame Quantity of Wood-pile Earth, and mix them well together; chuſe a Spot in the Garden where the Morning Sun ſhines freely, and dig in this Compoſt.

In the Middle of *Auguſt* procure ſome parted Roots, and plant them at two Foot Diſtance, burying the Head half an Inch. They will require no Care but that which is taken in common of every thing in the Border; and they will flower the next Year. After this to keep them in Perfection, they ſhould be every Autumn taken up, the Side Roots cut off, and freſh Compoſt put into the Place. They are then to be planted at the ſame Diſtance as at firſt, and they will thus preſerve their full Vigour.

The Seeds which ripen freely in round fleſhy Capſules, will grow as freely in the open Ground; but there is no need for the Trouble, the Plant is ſo common, and increaſes ſo faſt by the Root, that enough is always ready for that Propagation; and there is no Advantage in raiſing it from Seed, for it is not one of thoſe Plants whoſe Flowers admit a Variety of colouring.

The Cuſtom is to plant theſe parted Roots and thoſe of other Plants in common Borders, without regard to the Soil, and to mix them among other Kinds: what we propoſe for this and for all other Plants which the Gardener would bring to Perfection, is to place as many Roots of them as will occupy a ſmall Spot together; to dig out the Mould, and fill up that Part of the Border with their proper Soil; and to attend each with a Care and Management ſuited to its particular Nature. It is a new Plan of Gardening, but Reaſon declares it to be, what Experience under our own Eyes have ſhewn it, ſuperior to all others.

The Plants of every Kind are certain to attain their full Perfection when each is thus treated as Nature directs; whereas in a promiſcuous Border, where the moſt different Species are manag'd alike, one half muſt be drown'd with that watering which is not enough for the other.

Nature has given to each Plant its appropriated Soil: the Gardener plants them all in one. His common Mould is as ill adapted to the greater Part as any Compoſition that could be imagin'd. Dung has always a large Share in its Compoſition, and there are very few Plants which this will bring to proper flowering.

No Doubt can remain but that the Plants will be more perfect when each is rais'd in a Soil like that in which it lives, where Nature produces it; and where it has that Expoſure, and that Degree of Moiſture her invariable Law directs: that the Plants will be finer when rais'd in this Way, is known by all who have ſeen the Practice, and muſt be believed by all who read it. The only Queſtion remaining is, Whether a Garden whoſe Borders are thus planted with Clumps of every diſtinct Kind, or one where the ſeparate Plants are intermix'd, will be moſt pleaſing to the Eye. Fancy muſt give the Determination here, but upon the moſt impartial Compariſon it has appear'd to us that this Method is more pleaſing.

We would not have a little Clump in a Graſs Plat, planted entirely with one Kind; nor would we have it divided into regular Quadrants, Sextants, or Octants, for ſo many Species. Here Wildneſs is intended, and let it be preſerved by the promiſcuous planting; but in the long Borders of a Garden, Cluſters of Plants thus in Health and Vigour, unknown to common Eyes, will vaſtly exceed the half ſtarv'd promiſcuous Plantation.

It muſt be proper once to name this, for our Rules for Culture imply it generally. We hope the practical Gardener who follows our Inſtructions, by this Time ſees the Effect in many Inſtances.

6. GOLDEN PROLIFEROUS CROWFOOT.

Pl. 33. Fig. 6. There is not any among the various and elegant Effects of Culture that pleaſes more than the proliferous flowering. It is an Exuberance of Nature ſo ſingular in its Kind, ſo agreeable to the Eye, and to the Imagination, that the moſt unaccuſtom'd to theſe Studies always ſee it with Satisfaction and Surprize. We have it in various Forms: in the proliferous Oxlip, one Flower grows by its tubular Baſe out of the Body of another, and ſo it is in the *Datura* we lately deſcribed: in the ſmall *Crowfoot* of one of our former Numbers, there riſes a Stalk from the Centre of the double Flower, bearing another: ſo it is in this; and ſo we ſhall repreſent it in a ſucceeding Number under the Article Anemone.

The Student will ſee this *Crowfoot* an Exuberance of one of the double Kinds, and he will find it treated as ſuch by ſome of the Botanical Writers who firſt deſcribed it; they call it *Ranunculus Aſphodeli radice flore prolifero*, but that is an uncertain Denomination; for thoſe of other Colours, and from a different Stock will have proliferous Flowers.

The original Plant whence Culture raiſes this is of *Aſiatick* Origin. It is the *Ranunculus Aſiaticus flore aureo ſimplex*, of Ferrarius: this, Culture doubles, and farther Management of the ſame Kind, raiſes to this Height of Excellence and Beauty.

Linnæus diſtinguiſhes the Species by the Name *Ranunculus foliis ternatis, biternatiſque foliolis trifides inciſis caule inferne ramoſo*, ternate and alternate leav'd Crowfoot, with the Diviſions all the Way in threes, the Segments divided at the Edges, and with the Stalk branch'd in the lower Part. 'Tis a long Name, but this accurate Writer had Reaſon to make it ſuch. The Species of Crowfoot are very numerous, and all the Diſtinction is requiſite for aſcertaining this.

The Root is tuberous and irregular; form'd of ſeveral oblong Pieces, with a few thick Fibres.

The firſt Leaves are numerous; they ſpread variouſly from one Head, ſome erect, and others on the Ground; they are differently divided according to their Growth and Size, but always into threes: the Segments are oblong, and notch'd at the Edges.

The Stalk is a Foot high, round, of a pale green, ſomewhat hairy, and tolerably firm. There are two or three Leaves upon it divided in the ſame Manner as thoſe from the Root, and lightly hairy: their Colour is a pale green, and their Subſtance tolerably firm.

The Top ſupports a very large and elegant Flower of the Bigneſs of a common Roſe, of a bright Gold yellow, and compos'd of almoſt innumerable Petals; from the Centre of which riſes a ſlender green Stalk, an Inch and half in Length, ſupporting on its Summit a ſmaller Flower, perfectly reſembling the larger.

The natural Colour is the plain bright yellow we have mention'd; but the ſame luxuriant Culture which ſwells the Flower to this Bigneſs, enlarges the Number of the Petals, and ſends up this additional Off-ſpring.

In this State it is therefore a Creature of the Gardener's Induſtry; and we muſt refer the Botanical Student, who would trace its Characters, to the original and ſimple Flower: in that he will find them, as in the common Crowfoot of our Meadows.

The Petals in that are five; they are broad, obtuſe, and connected to the Receptacle by narrow Bottoms; and at a little Diſtance above this Bottom, there is in each a ſmall Hollow; this is the Nectarium of the Flower. In the Centre ſtand numerous Filaments, crown'd with oblong Buttons, which appear double; and in the Midſt of this Tuft are numerous very ſmall and reflex Stigmata; theſe have no Styles, but adhere to ſo many Rudiments of Seeds.

The Filaments being numerous, muſt be trac'd to their Origin, to find the Claſs of the Plant: they are inſerted on the Receptacle, and we thence know it to be one of the *Polyandria*. The numerous Stigmata ſhew it one of the *Polygynia*.

Culture of this Ranunculus.

So many Accidents muſt concur to the Production of this Flower, and many of them ſo perfectly unknown to the Gardener, indeed to all Men; that he muſt not expect to raiſe the Plant at his Pleaſure in this Form by any regular Culture.

By Roots it will encreaſe very freely; and when they are parted, at the Time of taking them, with thoſe of other Ranunculi, out of the Ground; the Produce muſt be planted in the uſual Manner, and the Flowers will be proliferous.

This is the certain, and the only certain Method; but he who ſhall cultivate theſe Flowers in general, according to the Rules we have laid down for producing Varieties from Seed, will not fail ſeeing this among his others.

If he have this in his Deſign, let him remember to what Kind we have refer'd it, and how declar'd it to be produc'd. Let him ſave Seeds from ſome of the ſemi-double yellow Kind, not from the ſingle nor the very double Sort; for the firſt will probably go no farther than producing double Flowers, and the Seeds of the other have not their full Strength when they reach the natural Size.

Therefore let a ſemi-double Flower of the plain yellow Kind be mark'd for Seed, obſerving to fix on one that has a good firm Stalk, and is every Way of ſtrong and vigorous Growth. Let theſe be ripen'd with Care; well harden'd; and in *Auguſt* they muſt be ſown in a Part of the Garden open to the Morning Sun.

Let the Mould be dug out of the Place, and a Compoſt of three Parts light Paſture Earth, and one Part old Cow-dung, be put in its Stead. On this ſow the Seeds evenly, and cover them a

Quarter of an Inch of the ſame Compoſt ſifted on.

In the Depth of Winter let a Mat be drawn over the Bed, ſupported by low Hoops; and at all Times keep the Surface free from Weeds, and carefully water'd. The Plants will flower the ſecond Year, and there will be many very noble ones of the more uſual Kinds, and probably ſome of this proliferous Sort. They muſt be taken up when the Leaves are faded, and in Autumn planted in the beſt Beds among the choiceſt Kinds, as we ſhall direct hereafter.

Let the Gardener never grudge this Trouble of trying for the proliferous golden Crowfoot from Seed; for if he fails of it from one Sowing, he will obtain it from another; and there never will be wanting fine Flowers enough to recompenſe the Labour.

7. BLUE ORIENTAL HYACINTH.

Pl. 33. Fig. 7.

We have acquainted the Reader with ſome very elegant Species of the Hyacinth, and ſhall with more. It is a Genus that abounds with Variety and with Elegance; nor is there any Species without Beauty.

The wild Kind, which Children know under the Name of Blue Bells and Hare Bells, is worthy to be brought from under Hedges, to be enroll'd among the Garden Flowers. This which we here deſcribe is ally'd to it, but of a nobler Origin, one of the Natives of the *Eaſt*, Children of the Sun, that always glow with a Richneſs unknown to thoſe produc'd in colder Climates.

The Writers on Botany have been long acquainted with it. The Bauhines have call'd it *Hyacinthus Orientalis*; and have given Names to many imaginary Kinds, its Seedling Varieties.

Dodonæus has taught others to call it by the ſame Name *Hyacinthus Orientalis*, with the Diſtinction of greater and leſſer. This is as arbitrary and vague as the others: theſe are only Varieties of Growth, but there are many really diſtinct Species: from thoſe Linnæus diſtinguiſhes it by the Addition of *corollis infundibuliformibus ſemiſexifidis baſi ventricoſis:* Hyacinth, with Funnel-ſhap'd Flowers, lightly divided into ſix Parts at the Rim, and ſwoln at the Baſe. This Name comprehends all the Varieties of this elegant Species, and ſeparates it as their Origin from all others.

The Root is bulbous and large, compos'd of many thick Coats, and full of a ſlimy Juice.

The Leaves are oblong, and of conſiderable Breadth; hollow'd, obtuſe, of a pale green on the lower Part, but deeper toward the End; ſix or ſeven of theſe riſe together from the Root, and throw themſelves about in various Directions.

Among theſe riſes the Stalk, round, thick, upright, juicy, and ten Inches high. It is browniſh in the upper Part, but of a pale green near the Ground. There are no Leaves on it; but from the Middle to the Top it is very glorioſly decorated with Flowers. Theſe are hollow, of a Bell or Funnel-like Shape, divided at the Edges into ſix Parts, and ſwoln into a kind of Roundneſs at the Baſe. They hang from the Stalk by ſhort ſlender Footſtalks of a browniſh green, principally, but not entirely, on one Side; and they are of an extremely beautiful Blue, and of a very ſweet Scent.

Sometimes there is a Mixture of purple with the blue; ſometimes they are white, and ſometimes they are fleſhy; theſe and numerous other Varieties of them are produc'd from Seeds, of which we ſhall ſpeak hereafter; but what we deſcribe here is the original or Mother Plant.

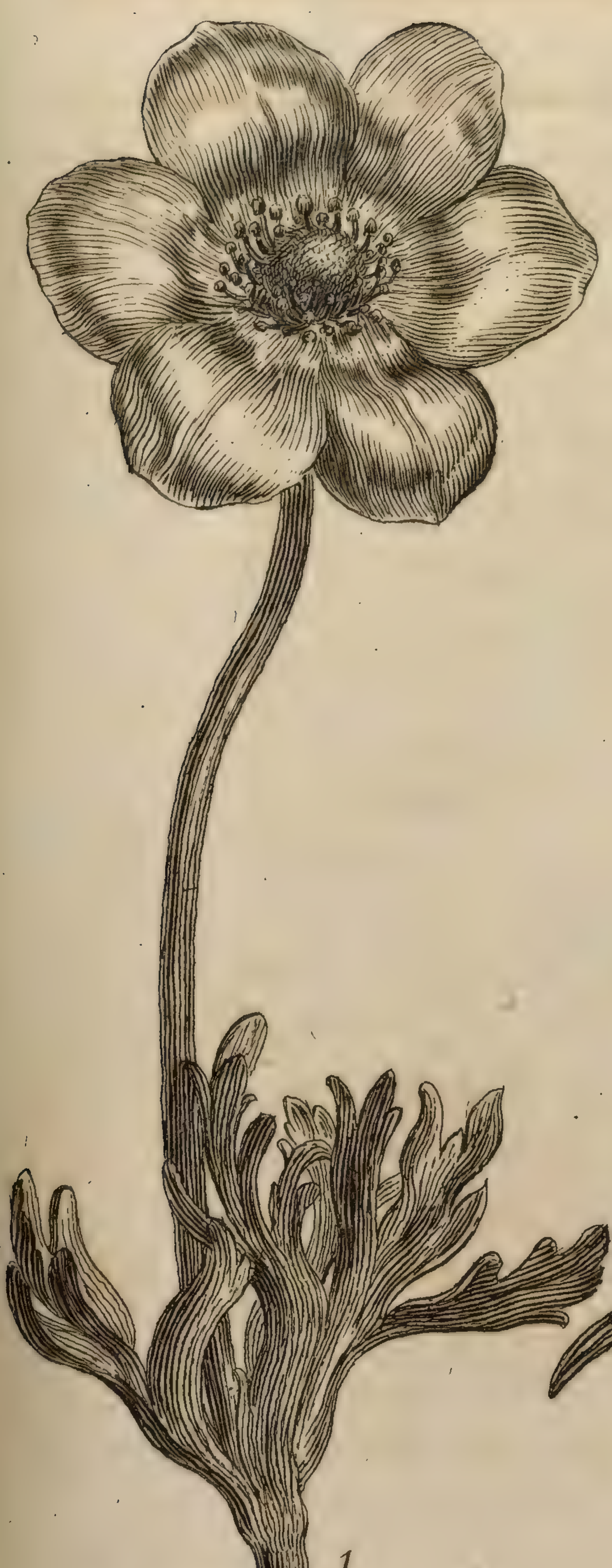
The Flower is form'd of a ſingle Petal, and from the Baſe there riſe ſix Filaments, ſhort, and terminated by convergent Buttons. In the Centre of theſe riſes a ſingle Style, terminated by an obtuſe Top. This ſhews the Plant to be one of the *Hexandria Monogynia*.

At the Top of the Rudiment of the Seed-veſſel, from which the Style riſes, there are three conſpicuous Pores, fill'd with a Honey-juice; theſe are the Nectaria of the Plant.

The Seed-veſſel is of a roundiſh Form, mark'd with three Ridges, and contains in three Cells a few large roundiſh Seeds.

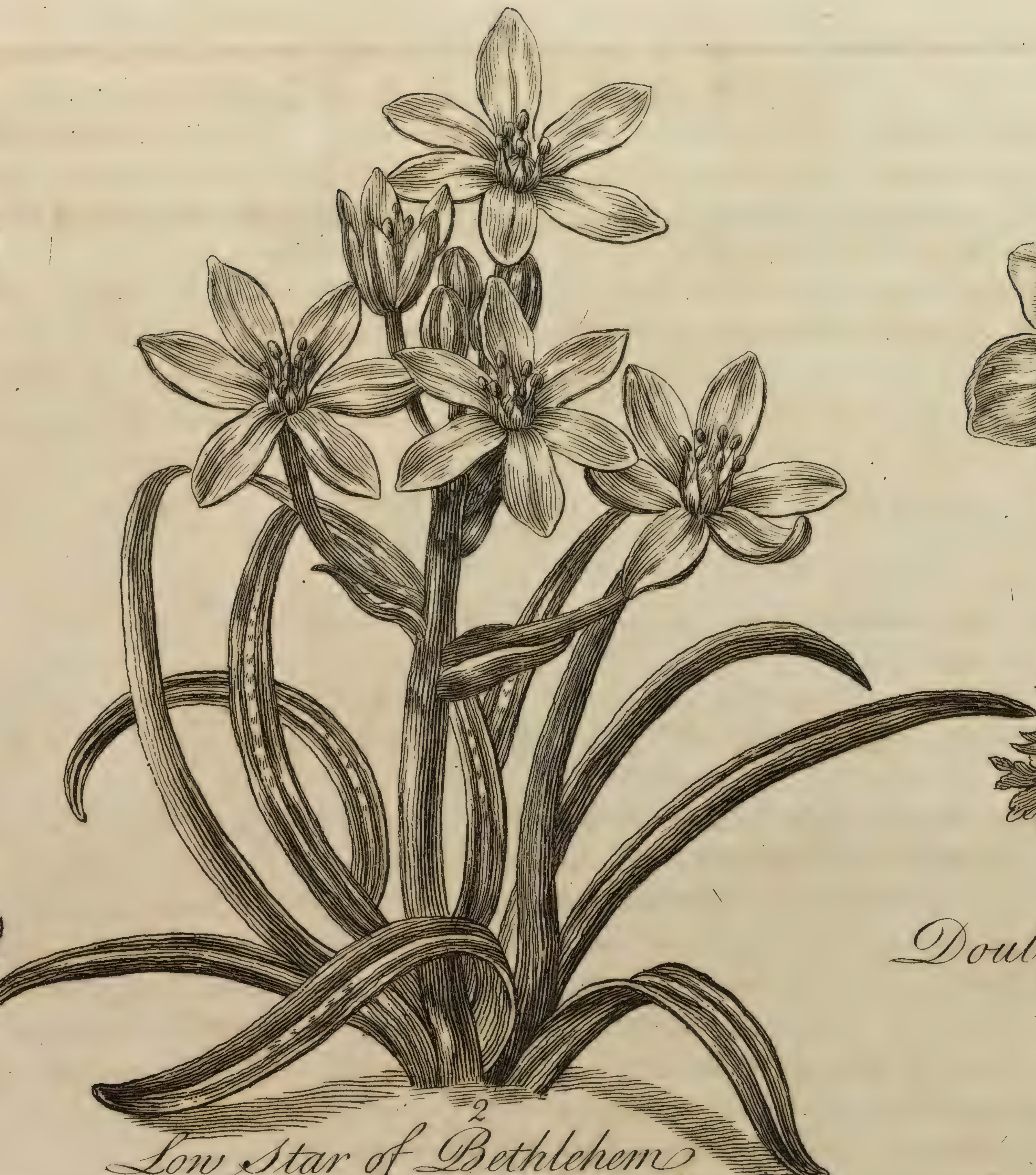
Culture of this Hyacinth.

This Plant is uſually propagated by Off-ſets from the Roots, and this is a Method of continuing it the ſame from Year to Year. They muſt be ſeparated with Care, and planted in a light rich Mould. The Seeds are to be ſown for double Kinds, and other Varieties, of which we ſhall ſpeak; and we ſhall then deliver the Method of managing the young Plants.



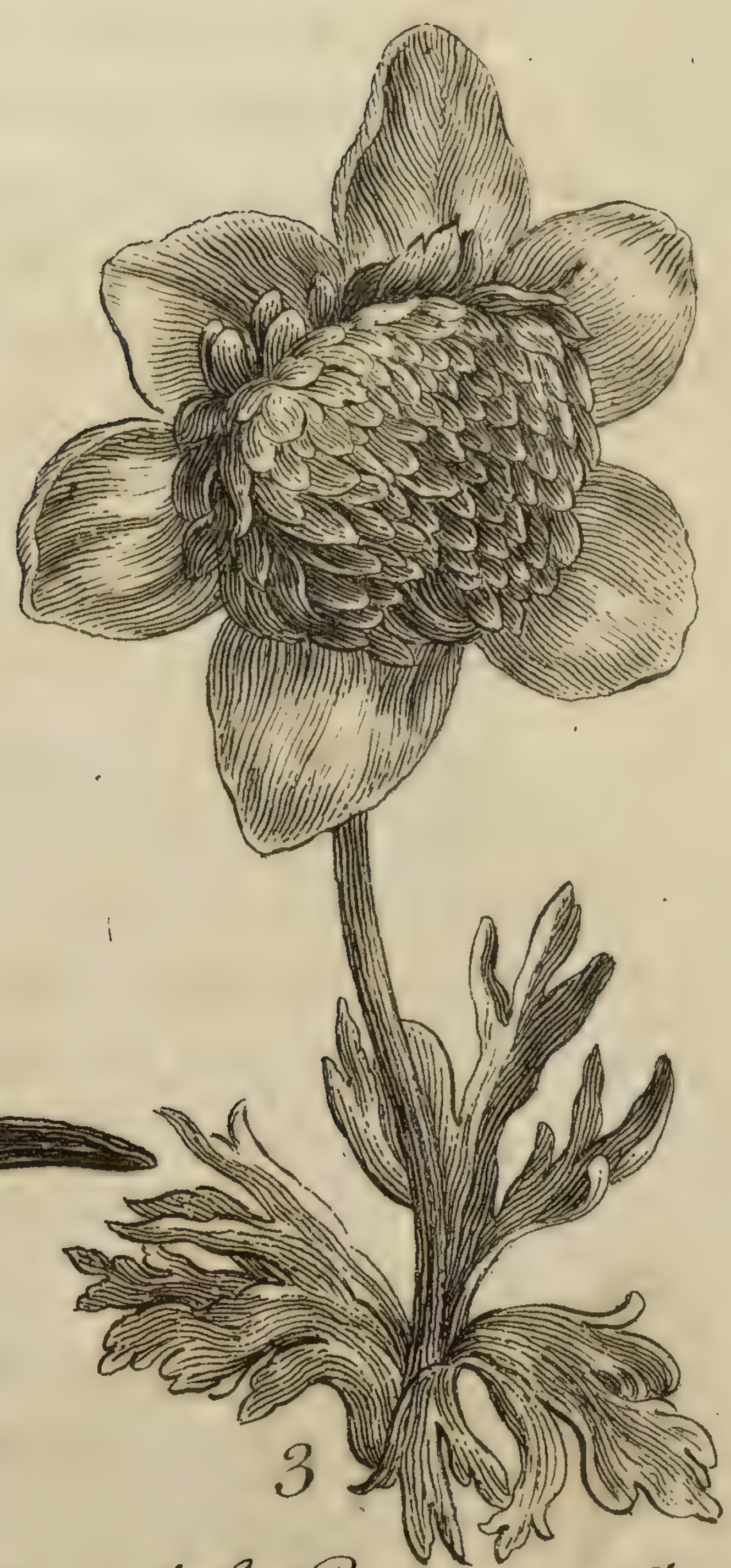
1

Blood red Anemone



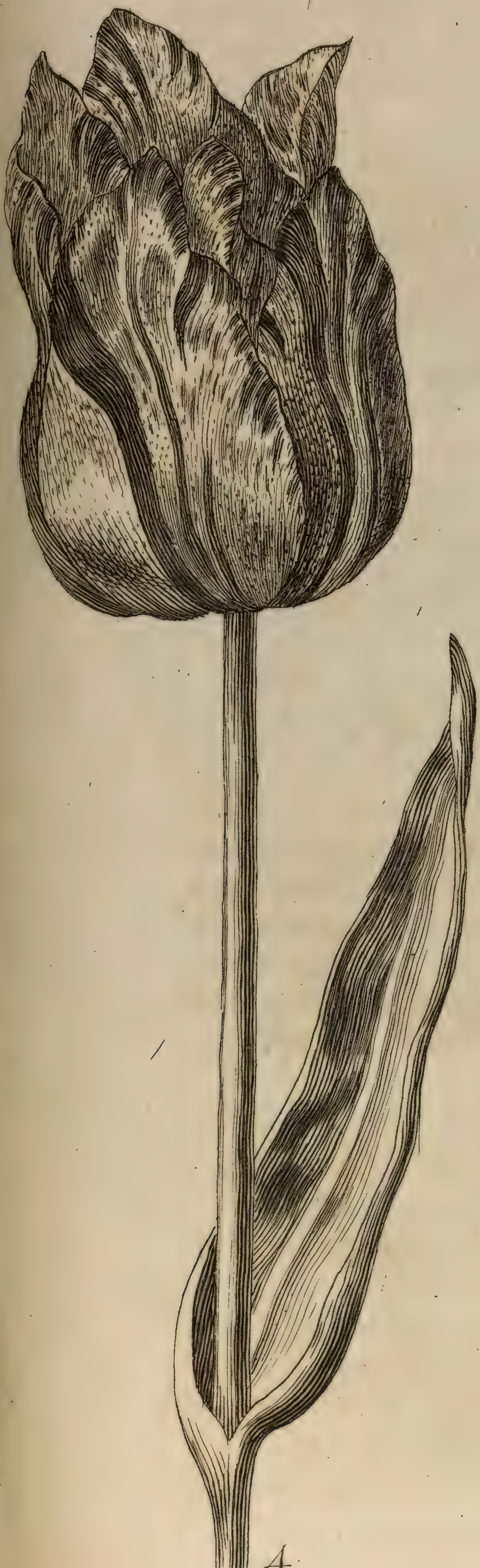
2

Low Star of Bethlehem



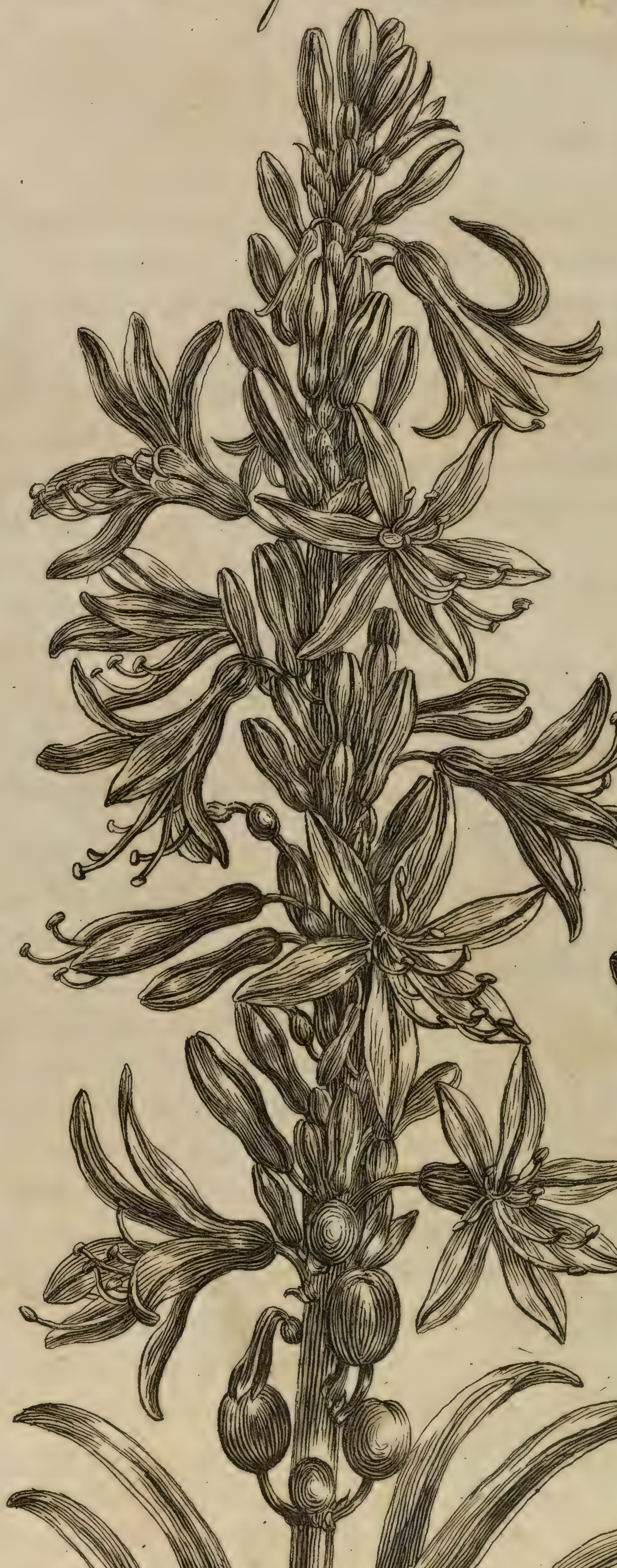
3

Double Crimson Anemone



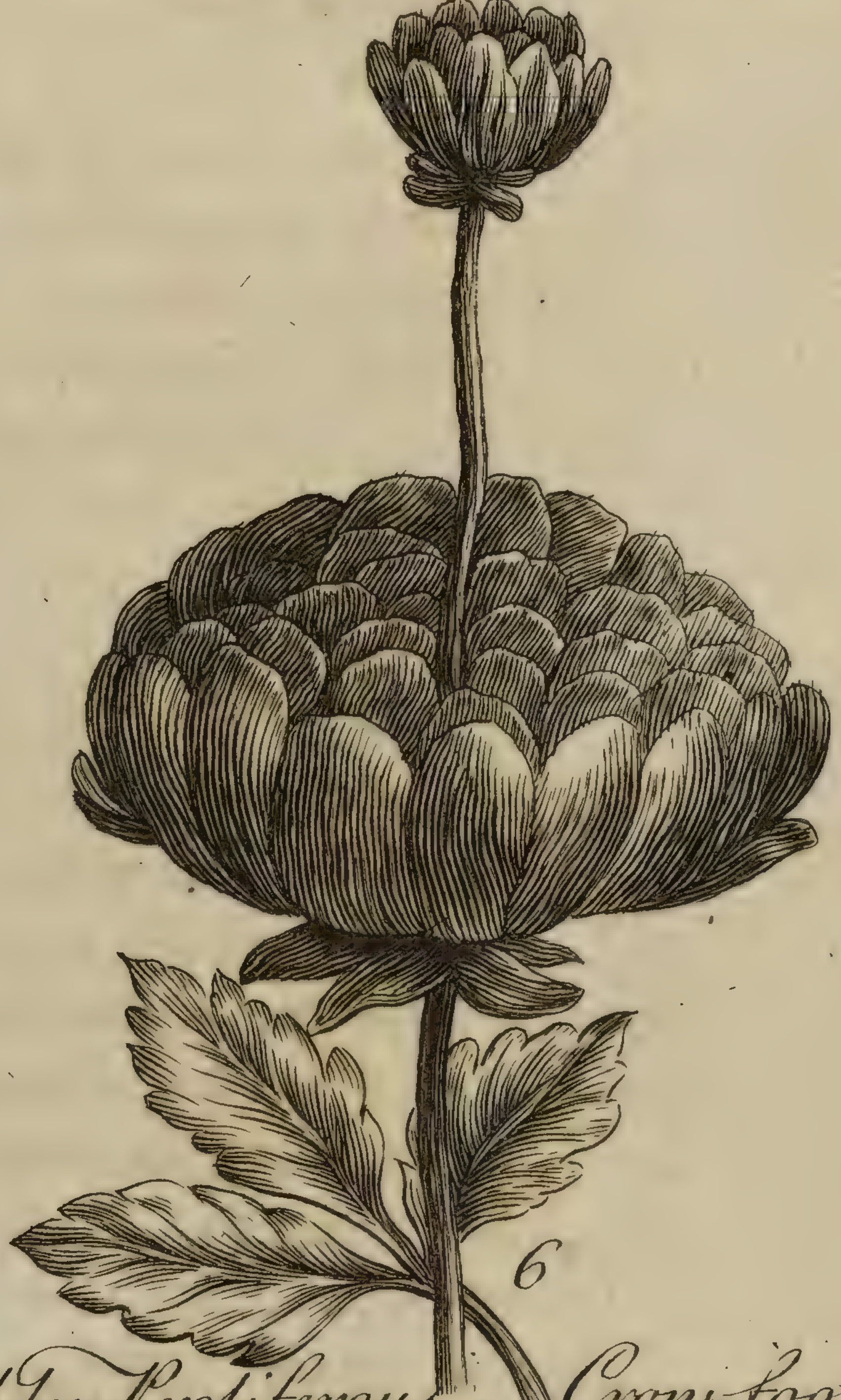
4

Painted Amethystine Tulip



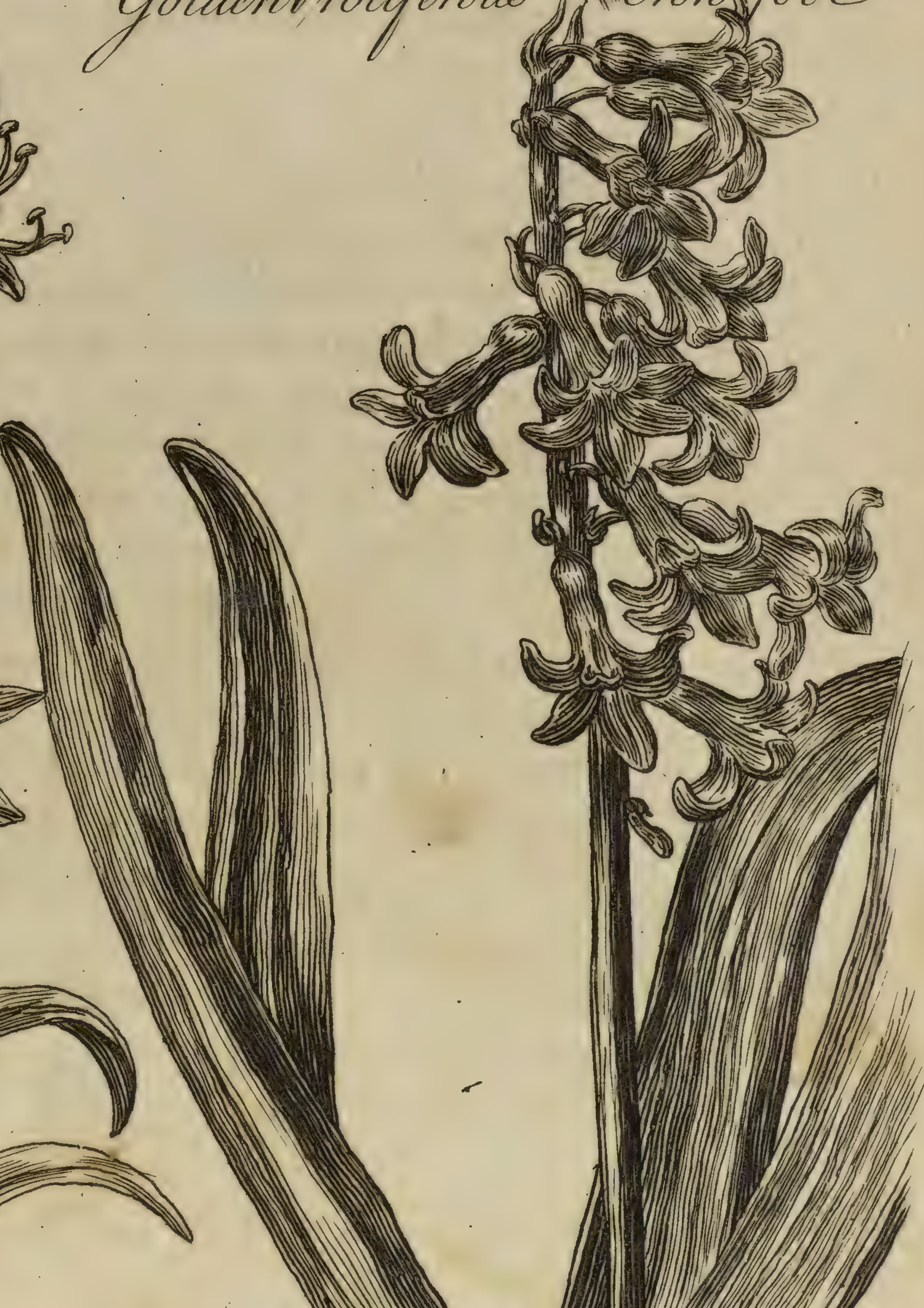
5

Yellow Asphodell



6

Golden Proliferous Crow-foot



7

Blue Oriental Hyacinth

CHAP. II.

The Management of the Flower-Garden, for this Week.

THE Auriculas will now come into Bloom, and they will demand a great deal of Care and Attention. Let the Gardener know on what Principles to undertake this, by underſtanding their Nature, Value, and Cauſe of Decay. Thus he will purſue his Buſineſs, as one who is a Maſter of it from Knowledge; not from the general Precepts of perhaps an ignorant Teacher.

The Beauty of theſe Flowers demands and deſerves his beſt Care. The Duſt which covers them is no ſmall Addition to it; and this muſt be preſerv'd upon them. The Rains will waſh it off, therefore the Plants muſt be ſhelter'd from them: nay the very Winds will diſturb it. The Sun, whoſe moderate Influence is neceſſary to bring on the Bloom, will preſently make it wither, if ſuffer'd to ſhine upon them too freely. This will exhauſt the Juices too faſt; and the Flowers will preſently fade.

To guard againſt theſe Damages, the Plants, which have been remov'd to the Stands, and plac'd carefully upon Shelves, muſt be farther protected by a Canvas Curtain; this muſt be fix'd to the Top of the Stand, on the Edge of its Cover; and it muſt be ſo long, that being let down it will reach to the Ground at ſome conſiderable Diſtance from the Front: this is to be their Defence againſt all Injuries, but it muſt not be us'd except when neceſſary.

Though the Flowers are to be defended from Rain and Winds, they muſt not be choak'd for Want of Air; and though the powerful Sun at Noon is not to be admitted, yet in Times, when his Beams are leſs fierce, they will be very ſerviceable.

Let the Curtain remain drawn up to the Top, when the Air is mild and the Sun moderate; but when it ſhines too violently, let it be ſo far let down as to ſcreen them: and when there are heavy Showers, or furious Winds, let it be drawn down entirely, and faſten'd to the Ground. When the Occaſion is over, it muſt be drawn up again.

By this Means the Flowers will attain their Perfection, and will preſerve it a long Time; a full Reward for the Trouble employ'd in raiſing them.

As ſoon as the Flowers are full blown, let the Gardener mark ſome for Seed: he muſt chuſe theſe by the following Characters:

The Stalk muſt be upright, tall, and firm; the Number of Flowers conſiderable, that the Tuft may be large, and their ſeparate Footſtalks ſhort; that it may be thick-ſet, as well as full; for when theſe Footſtalks are too long, the Flowers ſtand too far from one another. The Flower itſelf muſt be large and flat, regular in its Diviſions, ſhort in the Tube, and the Colours lively, with a broad Eye of white or yellow.

Theſe are the Plants which will produce fine Seed; and this is the Time to take the Care of ripening it. As ſoon as theſe are mark'd, let them be remov'd from the Stand.

Let a Piece of Ground be choſe for them in the Seminary, open to the South-Eaſt, and defended from all other Quarters; and let the Pots be here ſet up to the Rim in the Ground. Take off any decay'd Leaves, ſtir the Mould about the Surface, and from Time to Time give the Pots a gentle Watering.

This Way the Seeds will ripen perfectly, and produce good Plants. They who leave them on the Stands have poor Seeds, for there wants free and clear Air. This is needful to Nature in all her Operations; and that of ripening Seeds is the principal.

While this Care is taken of procuring good Seeds for a ſucceeding Year, let good Caution be us'd about the Produce of thoſe of a former Sowing.

We have directed the Polyanthus and other Seedlings to be ſhelter'd from the Sun; and none require this more than the Auriculas: two Hours full Sun will deſtroy perhaps every Plant of them. They muſt be carefully defended from this, either by their Situation, or proper Shading; and the Mould muſt be kept free from the leaſt budding of a Weed, and often refreſh'd with Water, a little at a Time.

Let the Slips we laſt Week directed to be planted out from the old Roots of Auriculas, be alſo every Day watch'd till they take Root; ſhading them occaſionally, and watering.

This Week is the great Seaſon of the whole Year for the Care of the Auriculas, and we have therefore at large deliver'd the Management of them.

Many other of the fineſt Flowers of the Garden will now alſo be diſcloſing their Beauties; the Hyacinths, Ranunculus's, Anemonies, and Tulips. Theſe we have directed to be planted in particular Beds, and they muſt be all treated with the ſame kind of Care we adviſe to be us'd for the Auriculas on their Stands.

We have directed theſe Beds to be planted with Hoops for drawing on Mats, to defend the Roots and Buds from the Severity of the Winter; and the ſame Defence will now be needful, not only againſt Rain and Winds, but againſt too much Sun. Winds will break the Stalks, heavy Showers will beat down the Bloom, and too much Sun will quickly exhauſt thoſe delicate Juices which ſupply the Flower, and it will fade: therefore to preſerve theſe Beauties long in their full Perfection, they muſt not be too much expos'd to the free Air. The Mats muſt be always ready for drawing over them; and they muſt be cover'd in all hard Showers and Storms.

In the beſt Days they muſt not be expos'd to the Heat of the Noon Sun; the Mats muſt be drawn over them at Eleven o'Clock, and not taken off till between Four and Five: thus they will have the Morning and Evening Sun, and ſufficient free Air, without which they would fade, as ſoon as from too much Sun.

This is the true Method of managing all tender Flowers, and in this Manner they will retain their Beauty a long Time.

SECTION II.

The Management of the SEMINARY, *for this Week.*

THIS Week the Gardener ſhould plant out into the open Ground ſuch Seedlings of Exotic Trees and Shrubs as are intended to ſtand the Weather, but, requiring ſome Care and Protection while young, are firſt rais'd in Pots. The Carolina, Bay, and Euonymus, the Tulip Trees and Candle-Berry, with others of the ſame Character, are now to be thus treated.

A ſhelter'd Part of the Nurſery is to be choſen; they are to be planted in a light but not poor Earth, and they muſt be unpotted with Care. The Evening of a cloudy Day muſt be choſen for this Buſineſs; and the firſt Caution muſt be to open as many Holes as there are Plants. The Bottoms of all theſe muſt be water'd, and the Mould laid out at their Sides, and well broke.

Then the Plants muſt be taken out of the Pots with their whole Ball of Earth; and the Fibres which ſpread on the Outſide of that muſt be taken off with Sciſſars. The Ball thus trim'd, muſt be ſet upright in the Hole, and a little of the Mould drawn round about it: then the Sides of the Ball muſt be gently cut down lengthwiſe, in ſeveral Places, ſo as to open the Earth a little without breaking it to Pieces, and immediately the reſt of the Mould thrown in.

Thus will the Roots be in a Condition to ſhoot new Fibres, and there will be a free and well broken Earth to receive them; and all the Time ſo much of the old Earth will remain about them, that there will be a continual Supply of Nouriſhment, without any Check from the Removal.

They muſt be water'd very carefully as ſoon as they are put into the Ground, and this repeated at Times till they are well eſtabliſh'd; after which they will take their Growth with the reſt of the Plantation, ſharing only the common Care; till they are of a Bigneſs to remove into their intended Places.

Let a Piece of Ground be dug up in a warm and ſhelter'd Part of the Nurſery, for ſowing the Seeds of ſome of the hardier Trees of *American* Origin, particularly the Coniferous Kinds. They muſt be cover'd half an Inch, and at Times water'd. In Winter they will require to be ſhelter'd, by drawing a Mat over them in the ſevereſt Weather; but at all other Times they will ſucceed the better for having the more Air.

SECT. III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

Products now in Seaſon.

THE Remains of the Winter Fruits are but few, and the principal Additions to them from Art (for there are none now from Nature) we nam'd in the preceding Week's Catalogue. The preſent may produce, from the forcing Frame, ſome Plums: they cannot be of the finer Kinds, nor in their greateſt Perfection; but ſtill the Sight of a Plum, that is but eatable, is a good Addition to the reſt.

We have obſerv'd, there may be Apricots and Cherries from the ſame Source, and Strawberries, which we have taught our Pupil to raiſe in Hot-Beds.

There will yet remain alſo, with good Management, the Nonpareil, and two or three Kinds of Ruſſet Apples; and the Winter-green and ſome other Pears. A good Manager will, from theſe Materials properly diſpos'd, make ſome Appearance till Summer brings in more.

CHAP. II.

The Care and Management of the Ground.

THE Supply from the forcing Frames will often carry the Gardener thither, and he muſt allow them an Attention ſuited to their Produce. Nature is greatly exhauſted by the Force uſed to ripen Fruits at ſo early a Seaſon, and Nouriſhment muſt be given in Proportion. The Earth muſt be frequently ſtirred about their Roots, and they muſt have every Day a moderate Watering.

The Trees muſt be more and more open'd to the Air, which will be now too mild to hurt them; and every other Day it will be very ſerviceable to water them all over, Branches, Leaves and Fruit.

The Fig Trees which have been cover'd up during Winter, and by Degrees expos'd to the Air in Spring, ſhould now be left perfectly open.

Clear away Weeds from the Earth about Fruit Trees, and if any ſeem going into a decaying Condition, the Leaves turning yellow or curling up, let them be water'd all over; and obſerve to do this in the Beginning of the Afternoon, that neither the Sun's Heat, nor the Night's Cold, may make the Watering prejudicial.

This done, let the Gardener with his Nails and Liſt go over his Fruit Trees againſt Walls: if any Branch be looſe, let him now faſten it carefully: let him rub off all fore-right and irregular Shoots, and train to proper Places all that are fit for Service. This done along the Walls, let him go over the Eſpaliers in the ſame Manner, and for the laſt Time this Seaſon, reduce every Thing to order.

Let him look to all new planted Trees, and ſee if they be firm in their Place, and promote their Growth by Watering.

A great deal of Care will be requir'd of the Fruit Trees now in Bloom, and ſet for Fruit.

We have directed the Winter's Care of them; and have adviſed Pieces of Furze to be ſtuck among the Branches to keep off dangerous Blaſts: if theſe be not found ſufficient, but the Bloſſoms, or the new ſet Fruit appear in Danger, let them be more thoroughly ſhaded by Branches of Laurel, the large Leaves of that Tree keeping off the Winds better than any Thing.

A great deal of Care muſt be taken to faſten theſe properly; for otherwiſe the Force of the Winds will drive them againſt the bearing Branches, and they will beat off the young Fruit which they ſhould preſerve.

Theſe Practices not only ſecure the Fruit from the Blaſts, but forward it very conſiderably in the Growth; but unleſs ſome Care be uſed afterwards, the Benefit like many others when ill manag'd, will prove the Deſtruction of what was at firſt preſerved by it.

'Tis very late before the Chillyneſs of Morning and Evening go altogether off; and the Shelter theſe Branches of Laurel have given to the young Fruit and the Bloſſoms, can but very ill be ſpared while there remain any of theſe Colds in the Air. They muſt therefore be very carefully taken away, and the Branches which had been moſt ſhelter'd, muſt be moſt gradually expoſed.

After a little Time their Leaves will grow to a Bigneſs to ſerve as a Defence, and this ſhould be watch'd and expected before the others are removed. No Branch that has been once ſhaded ſhould ever be uncover'd till the Bloſſoms have ſtood their full Time, and are faded, and the Fruit is firmly ſet.

The moſt dangerous Time for the Bloſſoms of Wall Fruit is, that of black Froſts: the Bloſſoms fall, and the new ſet Fruits in Numbers during the Continuance of that Weather, and the Cauſe is little known. It is not that thoſe Froſts are ſeverer than any others; but no Dew falls in ſuch Nights which gives them Power.

The weakeſt Tree always ſuffers moſt by Froſt, and for the ſame Reaſon Trees in general will ſuffer more by theſe Froſts than any others, becauſe the want of that natural Refreſhment they ſhould have from the Dews of the Night will make them weak.

This muſt be avoided by giving all the Fruit Trees in ſuch Seaſons daily Waterings: it muſt be done about Three in the Afternoon, and the whole Mould of the Border ſhould have the Advantage of it. The Roots will thus be well ſupply'd, that the Strength of the Growth will prevent the Effects of the Froſt.

Thoſe who have not ſeen the Experiment, cannot well believe the Advantage of it: but if any one will try it fairly, by watering the Borders at ſome of the Trees, and not at others, he will ſee ſuch a Difference as will very perfectly convince him.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Products now in Seaſon.

BEſide the Product of the common Ground, which to the Things named laſt Week as in Seaſon, adds Sprouts and Savoys, Coleworts and Spinach; there may be this Week gather'd from well-manag'd Hot-Beds, Peaſe and French Beans, both in very great Perfection.

The young Shoots of Salſafie will now be fit to cut, and they are by many eſteem'd very delicate eaten in the Manner of Aſparagus: Hoptops make another Diſh of the ſame Kind, and they are ſo wholeſome as well as pleaſant, that it is very well worth while to plant ſome Roots of the Hop about Hedges, or in other Places where as they grow up they will have Means of climbing.

CHAP. II.

Care and Management of the Ground.

SPring will by this Time ſhew itſelf in the Kitchen Ground in all its Vigour. The Crops we have directed to be put into the Ground will ſhoot up ſtrong and free; and Weeds, the Sowings of Nature, will appear with the ſame Advantages among them.

Let the Gardener begin the Week with a general weeding of the Ground: among the ſmalleſt and tendereſt Kinds this muſt be done by Hand; thoſe of more Growth and Diſtance the Hoe is to be us'd, and for this Purpoſe the Kind of Hoe ſhould be one that will cut deep.

In thoſe Plantations which are in Rows, and at due Diſtance, let him uſe the Spade; a digging between them will more effectually deſtroy the Weeds than any other Method, and it will greatly ſtrengthen the Growth of the Plants.

It would be well if this general weeding could be follow'd by a general Watering; but as that is not eaſy in large Pieces of Ground, it will be proper to obſerve what Crops want it moſt, and to give it them regularly, leaving the others to the Courſe of Nature; whoſe wiſe Author knowing the general Want of Showers at this Seaſon, ſends them frequently.

The beſt Times for hoeing are in the drieſt Days: Weeds that are to be taken out by Hand come up moſt freely after a little Rain; this will direct the Gardener how he ſhall appropriate his Work to the Seaſons.

The digging may be perform'd indifferently in either Weather; but in the drieſt Days the Mould will break eaſieſt, and the Spade will be moſt ſerviceable: for we have ſhewn that this breaking the Ground diſpoſes it ſo excellently for receiveing the Dews, that it in ſome Degree anſwers the Purpoſe of watering.

In the Weeding by Hand, and in the Hoeing, wherever the Plants are too thick, the weakeſt muſt be cut up or pulled out. There will be the greateſt Advantage in all Crops, from obſerveing a due Diſtance among the Plants.

Slip ſome Artichokes, and chuſe a moiſt Part of the Ground for planting them: they will require frequent Waterings for ſome time, but in the End the Practice will be found very advantageous.

Chuſe out a ſhaded Part of the Ground open to the North Weſt, for ſowing young Salletting; break the Mould very well, and ſow the common Kinds in the uſual Manner. The Situation will prevent the young Plants from growing too quickly out of Uſe, as they will ſoon do at this Time if allow'd a more favourable Aſpect.

Slip ſome Sage and other Aromatick Kinds, and plant them out in a ſhady Border: give them frequent Waterings, and ſhade them from the Sun, they will thus ſoon grow to be ſtrong and proper Plants.

Dig up very perfectly a Piece of good Ground for Cos and Sileſia Lettuces. Sow ſome good Seed, ſcatter a few Buſhes over the Bed; and if there do not come Showers within three or four Days, give a gentle Watering.

Take the Advantage of a fair Evening after a Shower, to draw up ſome Mould about the Stems of the Cabbages and Colliflower Plants we directed to be planted out ſome Weeks ago: it will ſtrengthen their Growth, and prevent their being too long in the Shank, which will be of great Service at this Period; and at the ſame Time it defends them from the Sun and drying Winds.

The Plants in our Celeri Bed will be ſtrong, if they have been weeded and water'd according to the Directions. A new Bed muſt be prepared for the greateſt Part of them, and in a cloudy Evening they muſt be taken up, leaving as many as will ſtand at about a Finger's Length Diſtance, and planting the others in their new Bed at the ſame Meaſure. A gentle Watering will be neceſſary for the new planted ones, and it will be ſerviceable for the others.

This Care taken of the ſeveral Crops, let the Gardener look after Inſects, which the Warmth of the Seaſon now brings out from their lurking Holes; and which if not deſtroy'd before they copulate, will ſoon lay the Foundation for an unconquerable Multitude.

At early Morning, and half an Hour before Sun-ſet, they will always be found abroad in great Numbers; and every warm Shower will alſo bring them out.

Theſe therefore are the Times to ſeek after them, and the beſt Inſtrument for their Deſtruction is a little Paddle, with a Handle five Foot long, and the Blade ſharp. A Blow with this cuts the naked Snail aſunder; and he is the worſt Enemy the Gardener has. If deſtroy'd upon the Bed, they ſhould be ſuffer'd to remain and conſume there; for their Fleſh ſoon diſſolves into a kind of ſlimy Moiſture, which is waſh'd into the Ground by the next Rains, and is a very rich Manure.

EDEN:

A
Compleat Body of Gardening.

NUMBER XXXIV.
For the ſecond Week in *MAY*.

SECTION I.
FLORA, *or the* Pleasure-Garden.

CHAP. I.
Flowers and curious Plants now in their Perfection.

May.

WE lay before the Reader, in the annext Plate, ſix elegant Tulips, deſign'd originally by the great Hand of Van Huysom; purchas'd from among the Collection of the late Mr. Sadler, and compar'd with Nature. We will not ſay corrected by her Works; for it is Juſtice to the Memory of that accurate Painter, to declare we found them the ſame in Nature and on his Paper.

As theſe had never been publiſh'd, we judg'd it would be agreeable to our Readers to give them in one Plate, and ſhall take this Opportunity of delivering at large the Culture and Management of that moſt valu'd Flower in all its Varieties.

What we have had Occaſion to ſay already of the Nature, Species, Varieties and Characters of the Tulip Kind, will ſave the entering on a particular Detail of the Parts in this Place, and allow the due Compaſs (after enumerating the Variations and Tincts of theſe ſix) to give the Culture in its full Scope, not from the repeated Pillagings of Authors, but Experience.

Our Reader will remember that the Source of Tulips, in general, is from two Species; the one with narrow Leaves and a drooping Flower, the other with the Flower erect, and the Leaves broader.

May.

Thoſe which we now lay before him are all Varieties of the latter Kind; the *Tulipa flore erecto foliis ovato-lanceolatis* of Linnæus: Tulip, with an upright Flower, and lanceolate but ſomewhat oval Leaves.

The Characters of the Genus are neceſſarily the ſame in all; a Flower of ſix Petals without a Cup, ſix very ſhort Filaments with long and large Buttons, and a great three-parted Head plac'd without a Style upon the Germ, or Rudiment of the Seed-veſſel.

Theſe Characters refer all Tulips (for they are common to them all) to the ſixth Claſs in the Linnæan Syſtem, the *Hexandria*; and to the *Monogynia*, its firſt Section.

The Roots and Leaves are much alike alſo; but as theſe are very obvious and well mark'd Varieties, there remain alſo ſome fix'd tho' ſlight Particularities in thoſe Parts, as well as the Flowers.

1. CHANGEABLE TULIP.

Pl. 34. Fig. 1. The Root is roundiſh, brown, and hung with thick Fibres; firm in Subſtance, and Snow-white within.

The Leaves are broad, green with a Tinge of greyiſh, wav'd at the Edges, and ſharp-pointed.

The Stalk is fifteen Inches high, tolerably upright, firm, and greyiſh.

The Flower is of the largeſt Kind, and painted with a very bold and beautiful Variety.

The Colours are three: a fleſhy Crimſon, a pearly White, and a very bright Yellow. Theſe are laid on in an inexhauſtible Series of various Forms, and thence from one Variety make a thouſand.

In general, the White is the Body or Ground Colour, but the Red covers the greater Part of the Flower; and the Yellow is not blended with theſe, or laid on like them in every Petal, but here and there touch'd as it were lightly and with a fantaſtic Hand over the reſt, in Clouds upon the Edges.

The Perfection of this Flower depends upon the Proportion of Red; if there be not a great deal of this the whole is faint; yet there muſt always be left Space for the White and Yellow, in both which alſo the Red may ſhew itſelf in elegant Streaks.

2. The GOLDEN TULIP.

Pl. 34. Fig. 2. This wants many of the Advantages of the others; Bigneſs of Flower, Strength of Stalk, and Variety of Colour, yet is there not one among them which excels it when in full Perfection. This will depend upon the Gardener's Care; which we ſhall direct.

The Root is oblong, covered with a black Skin, and hung with a few ſlight Fibres.

The Leaves are broad, very long, hollow, of a blueiſh green, and pointed.

The Stalk is a Foot high, round, pale, ſlender, and not very firm. It ſeldom ſtands perfectly upright, unleſs ſupported.

The Flower is moderately large, and of a perfect gold Colour, unting'd with any other. Its Duration is a valuable Conſideration, for it will outlaſt almoſt any other Kind.

3. The BLEEDING TULIP.

Pl. 34. Fig. 3. There is not among all the Variety of Tulips a bolder colour'd or a more conſpicuous Flower than this.

The Root is large, round, firm, and cover'd with a duſky Skin; the Fibres are numerous and long.

The Leaves are broad, wav'd at the Edge, of a pale greyiſh green, and hollow'd.

The Stalk is round, firm, upright, and eighteen Inches high; thickeſt at the Baſe, ſmaller to the Top, and of a pale green.

The Flower is one of the largeſt of the Tulip Kind, and very glowing in its Colours. Theſe are only two, yellow and red: but they are very perfect in their Kinds, and well diſpos'd in the Flower. The yellow is paler than what we uſually expreſs by gold Colour, but perfectly clear and bright. The Red is a deep Crimſon, and is very exactly what the beſt Judges mean by Blood Colour.

The Yellow is the Ground Tinct; the Red is laid on in very delicate Veins, and ſeems as if it were a fluid Colour running down the Flower. Thence it obtain'd the Name of bleeding Tulip. The Streaks are daſh'd and broken in ſome Places, but many of them are more diſtinct, and riſe from the very Bottom of the Flower, breaking and ſending out Side Daſhes as they riſe.

4. The PEARL and CRIMSON TULIP.

Pl. 34. Fig. 4. As the preceding Flower ſtrikes the diſtant Eye by the Force and Boldneſs of its Colouring, this is more calculated for a near View. In the other all is ſtrong and great; in this delicate and tender. The Incurious paſs it over in the Ground, but the Eye of a *Dutch* Floriſt will reſt whole Hours upon it, tracing the Shades and Tincts, their Regularity and Luſtre.

It is an upright and ſtately Tulip, tho' not of the largeſt Kind.

The Root is oblong and large, covered with a blackiſh Skin, and hung with a few ſlight Fibres.

The Leaves are very large, broad, hollow, wav'd, pointed, and of a blue green, often brown in the hollow Part.

The Stalk is firm, but not very thick; it is of a pale green, upright, and fourteen Inches high.

The Flower is regular in Shape, and in the Manner of Opening: ſo much indeed, that it may ſtand as an Example to the Gardener what Flower of the Tulip Kind is perfect.

The ſix Petals are in two Series, three within, three outward, and the three inner ones are longeſt, but not much ſo. The Bottom of the Flower is finely rounded, ſwelling in a due Proportion to the Height, and giving a free Diſpoſure to the Petals, without throwing them aſunder.

Thus the whole Flower, when in full Glory, is of a regular hollow Shape; and the Tops of all the Petals are rounded off, not ſharp pointed.

This is the Form when full in Bloom; the Petals ſtand nearly ſtrait upright, only having ſo much Variation from that Form as takes off the Air of Stiffneſs.

The Colours are only two; in plain Words they are white and red; but he who ſtudies Nature in theſe elegant Forms, will find there are a thouſand Whites, and as many Reds, though we

Tulips.

1 The Changeable Tulip

2 The Golden Tulip

3 The Bleeding Tulip

4 e Pearl & Crimson Tulip

5 The Auriflame, or Gold and Scarlet Tulip

6 The White & Purple Tulip

ysum Pinx.

J. Hill Sculp.

want Language to expreſs them. The White is the Ground Colour in this Flower, and it is of that delicate Kind we call pearly: there is in it a Tincture of greyiſh and blueiſh.

The Red is the moſt perfect Crimſon; and it is diſpos'd in the Flower with a moſt pleaſing Regularity. The Edges of the ſeveral Petals principally have it, and it is laid on there in even Stains, which dye away as they are continued narrower toward the Middle.

5. The AURIFLAME, or GOLD and SCARLET TULIP.

Pl. 34. Fig. 5. What we have juſt ſaid of the Variety of Colouring under the ſame general Name, is in no Flower ſeen more ſtrongly than this Tulip. The Colours, in plain Words, are red and yellow; but ſo they are in our third Species, and ſeveral others; yet this Flower ſhews them diſtinct from all: the Yellow is perfect Gold, and the Red the higheſt Scarlet.

It is a Tulip of the largeſt Kind, but often leſs erect than many others.

The Root is very large, oblong, covered with a brown Skin, and white within. The Fibres are long, thick, and numerous.

The Leaves are very large, broad, wav'd, of a freſh green, and pointed.

The Stalk is fifteen Inches high, round, not very thick, and generally bent by the Weight of the Flower.

The Size and Colouring of the Flower render it extremely conſpicuous. The Colours, Scarlet and Gold, are diſpos'd in long, broad, and irregular Stains, with a wild Freedom; and the Petals throw themſelves open as if to diſcloſe them; Nature intending in this Flower the glowing Tincts to be the Source of Beauty, and not the regular Form.

The Yellow is the Ground Colour, and ſhews itſelf very conſpicuouſly in every Part of the Petals, but moſt near the Baſe.

The Red is diſpos'd in long Streams, broadeſt at the Extremity, and narrower as they approach the Bottom.

This was the Colouring of the ſacred Enſign carry'd before the antient Kings of *France*, and thence the Name of this Flower, which we have taken from them. That Enſign was call'd *Oriflamme*, and *Auriflame*, and this Flower by the ſame Names after it.

6. The WHITE and PURPLE TULIP.

Pl. 34. Fig. 6. We have in this another Inſtance of that vaſt Variety there is in Nature, under the few common Names of Colours. This Flower differs in Tinct from any of thoſe we have deſcrib'd here, or before, and yet the ſame Names muſt expreſs the Colours: White is White in a thouſand Varieties, and ſo it is with Purple.

The Root is large, and covered with a thick deep brown Skin.

The Stalk is upright, and a Foot and half in Height; thickeſt at the Baſe, ſmall toward the Top, but firm throughout.

The Leaves are very broad, and of a deep green; pointed at the Ends, but leſs wav'd than many others.

The Flower is of a middling Size, of a perfect Form, and of extreme Beauty.

It is handſomely rounded at the Baſe: the Petals ſtand upright, neither bending in at the Tops, nor turning outward, more than to preſerve that beautiful Freedom there is in all the Works of Nature; and they are tolerably rounded at the Ends.

The Colours are only two, but they are perfect in their Kinds, and diſpos'd with a fine Regularity. White is the Ground Colour, and this is the moſt perfect in its Kind that can be conceiv'd. We uſually ſee White either tending to Blue or Yellow: this has no Tinct of either; but is true, genuine, and unſtain'd Ermine.

The Purple which forms the Variegations, is laid on in fine, ſlender, and even Streaks; they run to the Baſe of the Petals, and they ſpread themſelves in ſmaller Portions over the whole Flower.

The CULTURE *of* TULIPS.

As theſe we have nam'd here, thoſe in our preceding Numbers, and a Multitude of other Tulips, are no more than Varieties rais'd from the Seed of ſome good Kinds, we ſhall here enter upon their Culture together: the ſame Management ſerves for them all, the ſame Soil ſuits them, and they will be brought ſeverally to their Perfection by the ſame Care.

The uſual Method of Encreaſe is by parting the Roots; and the firſt procuring of theſe is by Purchaſe. The common Gardener thinks he knows enough if he can chuſe ſound Roots, keep them alive, and encreaſe the Number by their Off-ſets: we ſet out on a very different Plan. We ſhall teach him to raiſe theſe from Seed, in a much higher Perfection than he can purchaſe or preſerve them; and, for moderate Labour, offer him the Reward of Multitudes of Flowers, and among them many new ones.

The only Way to Perfection, in theſe Caſes, is the Beginning from the Seed. The firſt Care is the Choice of what is good; and this is the Time for chuſing the Flowers from which it ſhall be taken.

Of ſaving the Seed.

Let the Gardener now look with a careful Eye over his Beds of Tulips, and mark a certain Number of them for Seed. Let him chuſe for this Purpoſe ſuch as have firſt the general good Properties, Strength of Stalk and Regularity of Flower. Let him ſee that the Petals be rounded, the Bottom well ſhap'd and ſwelling, and the Buttons brown.

No Tulip can be fit for Seed that has not all theſe Qualities: and next to theſe is the Conſideration of Colour.

In many other Plants we have directed the Gardener to ſave from Year to Year the Seeds of the gaudieſt and fineſt Flowers; but it is not to be ſo here. All that is requir'd of the Mother Plant is to have the Properties before recited, with a plain Colour.

Experience ſhews, that when the Seeds of a variegated or ſtrip'd Tulip are ſown, the Seedling Flower has all the Colours of the Parent, but they are confus'd and irregular: too much Mixture takes away the Beauty.

The Effect of Culture is to throw in theſe Stripes and Variegations: it will never fail of this Effect if well conducted; therefore the Choice of Flowers for Seed ſhould fall upon thoſe which have only one Colour, and that ſuch as is eaſieſt to be alter'd.

When the Gardener has mark'd the Properties in ſeveral Flowers, let him examine their Colours. Two Articles require Conſideration under this Head, the general Tinct, and the Bottom: this is uſually very different from the reſt, and it muſt be choſe for eaſy Variation.

Any plain or ſingle-colour'd Tulip, that has the general good Properties, will do for Seed; but I have found the beſt of all to be the plain dull red Tulip, with a white Bottom. This dull Red breaks freely in the Seedlings, and the Colours have all their Luſtre.

Next to the white-bottom'd Tulip, the yellowiſh ſhould be choſen. Thoſe Flowers that have dark Bottoms I have always found break difficultly and irregularly. Nothing is ſo hard as to change a deep Tinct in the Bottom of a Tulip; and the reſt of the Colours always depend in a very great Degree on this. The Seed of a yellow Tulip ſhould never be ſav'd, unleſs for the ſingle golden Kind we have deſcrib'd in a preceding Chapter.

The Gardener having thus mark'd a ſufficient Number of Flowers for Seed, muſt employ his due Care that it ripen well. At preſent all he will need to do is to preſerve the Flowers from too much Sun, which would dry up the Duſt upon the Buttons, on whoſe good Condition the Perfection of the Seeds depends.

When the Flowers begin to fade, let him cut down the Stems of all that ſtand near thoſe which are mark'd for Seed. After this, the Roots of the others will draw leſs Nouriſhment, ſo that thoſe which have their Seeds to ripen will be well ſupply'd.

To promote this, let the Mould be broke every other Day, half an Inch deep all about them, with a Trowel; and immediately after let them have a ſlight Watering.

In this Manner let them be manag'd till the Seed-veſſel has its full Bigneſs: then let no more Water be given; but let the Air come freely. The Seeds have by this Time their full Bigneſs; they have receiv'd their Impregnation, and they are only to be harden'd.

The Stalk will ſoon ſhew that no more Nouriſhment is given them from the Root; they may therefore after this be cut off, and the hardening of the Seeds finiſh'd in an airy Room, where they will be out of the Way of Dews and Damps.

For this Purpoſe, let a ſmall Shelf be hung from the Cieling, covered with Cartridge Paper, and ſecur'd by an Edge of the ſame Paper, half an Inch high. On this let the Heads be laid, and every three Days mov'd about, to turn them, that they may dry freely.

Thus let them lie till the third Week in *Auguſt*: then let them be open'd, and the Seeds carefully ſhook out. Let them be ſcatter'd over the Shelf, and again turn'd every three or four Days, till they are ſown.

Of making the Compoſt.

The Seeds thus provided, the ſecond Article is a proper Soil to receive them. *Europe* affords none ſuch naturally, nor have our Gardeners hit upon the proper Mixture: or if any of them have, they keep the Secret.

MILLER, heretofore the Floriſts Oracle, directs them to be ſown in a freſh ſandy Earth: this is too poor.

The *Dutch* uſe Kitchen-Garden Mould, well enrich'd by Dung; but this is as much too rich as the other is too meagre. The one does not ſupply Nouriſhment, the other makes them rank.

What I have found ſucceed, is this:

Mix together two Buſhels of dry Mould from under the Turf in an upland Paſture, five Pecks of Pond-Mud, and three Pecks of Earth from under an old Wood-Pile.

As ſoon as the Flowers are mark'd for Seed, let this Compoſt be mix'd and thrown up in a Heap to the Weather: it will be fit for Uſe by that Time the Seeds are ready to be ſown.

This I have found to yield a ſufficient Supply of Nouriſhment, without making the Roots rank, and it keeps free from Worms.

Of the Time and Manner of Sowing.

In the Middle of *September* let the Gardener fix upon a Piece of Ground that is open to the South Eaſt, but defended from the full Noon Day Sun. Let it be naturally open alſo to the North; but let a Reed-Hedge be plac'd on that Quarter, upon a Hinge, that it can be brought forward to ſhelter the Spot in ſevere Weather. At other Times, the Openneſs to this Quarter of the Heavens, is an Advantage.

Gardeners direct the ſowing in Boxes and Pans; but it is wrong; the Compoſt is too ſmall; and the Earth in theſe Conveniencies never has its natural Warmth or Moiſture.

Let the Mould be dug out of the Border in this Place, and the Compoſt thrown in, ſaving as much as will be needful to cover the Seed. Lay the Surface even, and take a proper Opportunity of ſowing the Seeds.

The *French* firſt diſcover'd two Particularities in the Tulip: That the Seed ſucceeds beſt, if ſown when the Wind is in the North, and when the Moon is in her Decreaſe. The *Dutch* try'd this repeatedly, and declare with one Voice they have found it true: what Experience I have had alſo confirms it. Therefore whatever ſays Philoſophy or Fancy, let the Gardener follow this Practice: the Advantage is certain, and perhaps ſome Time the Cauſe may be underſtood.

Therefore let the Gardener chuſe ſuch a Day and an Hour before Sun-ſet: and let him ſcatter on the Bed the Seeds moderately thick.

Sift over them a Finger's Breadth of the ſame Compoſt, and give a very ſlight Watering.

Lay on the Ground a few light Hawthorn Buſhes, and leave the reſt to Nature. During Winter, the few Weeds that riſe on the Bed muſt be now and then carefully pull'd up, while they are young; for, when they have more confirm'd Roots, the taking them up will deſtroy the Seeds.

Let the Reed-Hedge be brought forward for Shelter all the hard Weather, but in Spring let it be thrown open.

Of the Management of the Plants.

In Spring let the Buſhes be taken off, and the Ground once a Week carefully weeded and looked over. The young Plants will ſoon appear in great Numbers: their firſt Leaves are like Graſs, but they will be known by bringing up the Huſk of the Seed with them.

This muſt be a Time of Caution: an ignorant Hand might take up the Seedlings; and they will require not only to be weeded very frequently, but to be water'd once in four Days, a little at a Time, and from a fine-nos'd Pot.

Soon after this the Bulb will form itſelf, three Inches deep in the Ground, and out of Reach of Injuries.

The firſt Appearance of the Plants will be at the latter End of *March*; and in about ten Weeks, that is, toward the Middle of *June*, theſe green Leaves will decay.

Then let the Surface of the Bed be raked, and half an Inch of freſh Compoſt be ſifted over them.

Thus they may remain till the ſame Time the ſucceeding Year; but then it will be of great Advantage to remove them.

For this Purpoſe, let a freſh Parcel of Compoſt, like the firſt, be mix'd up in Autumn, and let it lie all Winter.

In the latter End of *June*, the ſecond Year, let the Border be ſtir'd, and the Mould with the Roots taken out.

Then let the freſh Compoſt be put in, and the Mould ſifted, to ſeparate the Roots.

This done, let the freſh Border have a very gentle Moiſtening, and then let the Roots be planted on it with Care, at about three Fingers Breadth Diſtance. Let them be covered with two Inches Depth of the ſame Compoſt, and thus left for the ſucceeding Winter.

The next Year, at the ſame Seaſon, let the ſame Operation be repeated.

Thus they are to be manag'd the four firſt Years. On this, which is a Method very little known, the Succeſs of the Seedlings will greatly depend. In all theſe Tranſplantings the Compoſt ſhould be laid about five Inches thick, and the Bottom ſhould be trod hard before it is put in.

After the fourth Year, the Quantity of Compoſt muſt be four times as much as at firſt; the Border much larger and deeper; and the Roots muſt be planted at a full Finger's Length Diſtance.

The fifth Year they muſt have more Room, more Depth of Soil, and freſh Compoſt; and this Seaſon ſome of them will probably flower; the ſixth Year, the generality; and the ſeventh or eighth, all.

After this, they are to be treated as the other old Roots.

The Soil that is commonly directed to be us'd for theſe, is Paſture-Earth, with the Turf rotted in it, and ſome Sand and Lime Rubbiſh. This I have try'd, and found ſucceed in the uſual Manner, but greatly inferior to the Compoſt we have here directed; which ſhould always be made of the ſame Ingredients, tho' freſh every Year.

All the Difference of their Management is, that they muſt be planted a few Weeks ſooner than the old Roots, and ſomething deeper in the Ground.

Of breaking the Tulips.

A great many Falſities have been publiſh'd with Regard to the Method of breaking Tulips, that is, of bringing them to their Stripes and Variegations. Something may be done in it, but leſs than is uſually pretended: Nature is the great Artificer; and they write falſely who pretend to do it all by their own Management. The giving them freſh Soil is a principal Article, for without this Nature cannot perform her Work.

On one Foundation all reſts, and that was diſcovered long ſince by CLUSIUS: If the beſt Tulip be ſuffered to ſtand a great many Years in the ſame Spot, without taking up, or other Management, it will loſe all its Stripes, and return to the original plain Colour: and, on the contrary, frequent Removal brings the Stripes and Paintings.

We have now led our Student to the Flowering of his Seedling Tulips; and he is out of the Number to make his Choice of ſuch as are to be the Subjects of his future Care. This will depend upon two Circumſtances; the Colour of the Bottom, and that of the Buttons.

We have obſerv'd, that the true Colour of the Bottom is white or yellow. Altho' the Seeds have been ſav'd from only ſuch as had theſe Characters, there will be among the Seedlings ſome with thoſe deep-colour'd Baſes which never change. Theſe muſt be all taken up and deſtroy'd, for they will never come to any thing.

Next the Buttons are to be examined. It is eſſential to a good Tulip that theſe be brown: they are often yellow: they will be ſo in many of theſe Seedlings; and as this Colour never will change, thoſe which have it ſhould alſo be taken up.

Laſtly, if there be any of the green or olive

Tulips among the Seedlings, they muſt alſo be taken away.

Theſe remov'd, the Floriſt will ſee what he has by way of Store for his future Labours; and as the good Properties we have nam'd never change any more than the bad ones, he will find that he has here a certain Number of Roots, which will not fail his Expectation, if he do not fail in the needful Labour.

We have ſaid that the Seedlings, when brought to this State of free Flowering, are to be treated as other old Roots. We ſuppoſe then, that after flowering, and the Leaves fading, they have been taken up, and that the Seaſon approaches for planting them.

Let a Border be choſen in ſuch an Expoſure and Situation as we directed for ſowing the Seeds, only let it be larger. The Mould muſt be dug out, and the Compoſt thrown in, to the Depth of twelve Inches. Let this be done in the latter End of *September*, and an Opportunity then taken of a decreaſing Moon, and a Northerly Wind. Let the Roots be ſet upright, at a Span Diſtance from one another, and then more of the Compoſt muſt be ſifted on, to raiſe the Bed ſix Inches higher; then let the Top be finiſh'd a little rounding, to throw off Wet, and leave them to Nature, only defending them againſt the ſevere Cold of Spring, by Canvas drawn over Hoops.

From Time to Time, in Spring, the Bed muſt be weeded; and, occaſionally, moderate Waterings are to be allow'd. Thus the Tulips will be brought to Flower.

This is the Method of bringing the Flower to break; but it does not take Effect on all at the ſame Time: ſome will come to this Beauty ſooner, and ſome later.

When they are in Flower, let them be carefully looked over, and let ſuch as are well broke, be mark'd for planting out among the more excellent Kinds, for the ſucceeding Year.

Thoſe which have come truly to their Beauty, have the Stripes clear to the Bottom, and keep their Colour to the laſt. Such as theſe are perfectly broke, they will never return to the plain Colour while well manag'd; and their Off-ſets will always afford the ſame Kind of Flowers. Theſe are therefore a certain Treaſure.

In this Manner, every Seaſon, ſome will break, and the Stock of perfect Tulips will, from Time to Time, be encreas'd.

When all are got from the Seedlings that will break, or are worth preſerving, let the reſt be planted out in common Parts of the Garden.

Every Year we would adviſe the Floriſt to ſow ſome Seed. There is no great Trouble; and in that Manner of Management, the Length of Time before the Plants flower would not be regarded; for, after the firſt Parcel, every Year will bring a Succeſſion, and there will be an everlaſting Fund of Variety, Beauty, and Pleaſure.

Of the Management of the perfect Plants.

When the Beds are to be prepar'd for the perfect and fine Tulips, they muſt be conſtructed as we have directed in the laſt Chapter; and the firſt Week in *October*, or as near that Time as the due Opportunity of Moon and Wind can be choſen, let them be planted as directed, only with more Caution. Let a Quantity of very clean Sand be in Readineſs; and when the firſt Quantity of Compoſt is put in, and the Places are mark'd for the Roots, at about eight Inches Diſtance, let every Root be prepar'd for ſhooting out its Fibres, by taking off the ſcaly Skins about the Bottom.

Theſe outſide Skins on the lower Part of the Bulb, are often ſo hard, that the Fibres cannot get thro' them, and many a good Root is loſt; for if the Fibres cannot make their Way, it will rot, inſtead of growing.

This done, ſet each Root in its Place upon the Mould, and draw round it a ſmall Circle of the Sand up to its Top. This is a very eſſential Article. It keeps off Worms, and it prevents the bad Effects of too much Moiſture.

After this, they muſt be covered up, and defended from violent Froſts and heavy Rains, by Canvas or Mats, on Hoops; and when they riſe toward Flowering, they muſt be water'd at Times; and Care muſt be taken in the earlier Waterings, that none ſettle among the Leaves, for it will often rot the Plant.

If at this Time a Leaf of any of the Tulips droops, curls up, and appears diſtemper'd, let it be cut off; for otherwiſe the Miſchief will infect the whole Plant, and often it will ſpread over a great Part of the Bed.

Of preſerving the Tulip in Bloom.

The Floriſt, when he ſees his Tulips burſt open in all their Beauty, finds his Toil well rewarded; but he often ſighs to think of the ſhort Duration.

Nature has not intended Flowers for long Continuance. They ſerve to encloſe and defend the Parts of Fructification; and when that Purpoſe is effected, naturally fade.

The Tulip remains in its fine Condition longer than moſt other Flowers, becauſe there being no Cup, a greater Duration of this ſole Defence is neceſſary: but this Period, which is long in Compariſon of moſt other Flowers, is too ſhort for the Floriſt, whoſe Labours thro' ſix or ſeven ſucceſſive Years to bring it to Perfection, and whoſe continued Pains to preſerve it in that State merit a longer Permanence in its Beauty. This is in ſome Degree in his own Power.

Let him conſider what makes the Flower fade moſt, and guard againſt it. The Heat of the Sun is the great Article of Damage: it brings on the Decay in a double Manner; for its Influence ripens the Seed-veſſel, and renders the Flower no longer neceſſary, and at the ſame Time exhauſts the Juices of the Petals.

Some Sun is needful, but a little ſerves: all that is above the due Proportion haſtens the Decay.

The ſecond Article of Danger is from Rain. The Root of the Tulip will require ſome Moiſture while the Plant is in flower; as well as the Bloom ſome Sun: Moderation is the great Article. The Moiſture is better given by Art: for a haſty Shower will ſoil and ſully the whole Bed.

Theſe two Miſchiefs are to be guarded againſt in the ſame Manner; that is, by an occaſional Covering. This alſo will prevent that Honey Dew which often is very pernicious.

The Advantage of an occaſional Covering is very obvious; but the Manner of doing it in many Places is wrong.

Our Gardeners are not ſo careful or intelligent in this reſpect as their Neighbours. Many leave the Beds of their beſt Flowers open; and Winds, Rain and Sun are admitted to the Flowers as Nature pleaſes: ſo that an Hour ſometimes deſtroys the Pleaſure toiled for throughout the Year.

Others who cover them uſe only common Hoops and Mats; and they are thus choaked for want of Air.

The beſt Method is to plant upright Poſts of about four Foot high, on each Side of the Bed, at moderate Diſtance, and over theſe to carry Hoops: this kind of Frame may be occaſionally cover'd with Canvas; and it will ſtill retain Air enough for the perfecting and preſerving the Beauty of the Plants.

The Canvas muſt be drawn over the Hoops from Eleven to Four in the Afternoon every Day, when the Sun is powerful. It muſt be alſo drawn on when there are ſharp Winds, haſty Showers, or ſevere Nights. Thus the Flowers will have the Morning Sun, and Evening Breezes to refreſh them, and will be open at the uſual and agreeable Hours of viewing them; and by this Preſervation they will continue twenty, thirty, or even forty Days in bloom, and die off at laſt with all their Colours perfect.

The Management of the Roots after flowering.

No Seeds are to be ſaved from theſe perfect and fine Tulips, for we have obſerved they are not the proper Breeders. Therefore the Care of the Roots is all.

Nothing exhauſts a Root ſo much as the ripening of the Seeds; therefore none being expected here, let the Stalks of all the Tulips be broke off as ſoon as the Flowers are paſt. Then take off the Covering entirely: the free Air is needed, and the Nouriſhment Nature was preparing for filling the Seeds will ſwell the Root, and its Off-ſets will now grow to great Advantage.

This being an accidental Growth laſts but a little Time. The Leaves ſoon after fade, and the Root gets into a State of Reſt.

It is then to be taken out of the Ground. The Middle of *June* is about the Time for this; and it muſt be done in a careful Manner, that the Roots be not cut or bruiſed.

At this Time let a dry Mat be ſpread over a Table in an airy Room; and as the Roots are taken up, let them be clean'd; and the looſe, ragged, outer Skins pulled off; let them be then laid upon the Mat not to touch one another; and every Day turn'd or moved about. They will thus harden a little; and they muſt then be put up in Drawers till the Time of planting.

They muſt not be kept moiſt, for that would give them a Tendency to Mouldineſs, and they would then rot when put into the Ground; neither muſt they be kept too cloſe, for in that Caſe the Air being ſhut out from Acceſs and Refreſhment, the Principle of Growth will be deſtroy'd in them.

The only farther Caution muſt be to preſerve them from Vermin; for they are not unpleaſant, and will be a ſure Prey if left expoſed.

The Off-ſets ſeparated from the principal Roots muſt be managed exactly in the ſame Manner, and planted in Autumn, three Weeks ſooner than the large Roots, in ſeparate Beds. Thus they will flower as they gather Strength, and then according to their Value may be received among the others.

Thus may the Floriſt manage his Tulips from the Seed to the Perfection of the Flower; and if he every Year continue the eaſy Taſk of ſowing, he will in Return after the firſt Period, have every Year new Flowers for his Credit and Satisfaction; and Numbers to enrich the Gardens of his Friends; or if he pleaſe, for Profit.

We have obſerved that the general Time of planting the fine Tulip Roots is in the Beginning of *October*, but the early Kinds ſhould be put into the Ground three Weeks ſooner. They muſt be allow'd all Means of Defence, and 'tis beſt to plant them where there is the Shelter of a warm Wall. They are after this to be treated juſt as the others.

If the Weather come in ſevere juſt as their Buds riſe, they muſt be cover'd: the Surface of the Mould ſhould be ſtir'd to promote the ſettling and ſinking of the Dews, and to deſtroy the firſt Shoot of Weeds; and afterwards, if the Seaſon be dry, they muſt be allow'd with due Care a little Water.

CHAP.

CHAP. II.

The Care and Management of the Flower Garden for this Week.

THE Garden by this Time glows with a Variety of elegant Flowers in their ſeparate Beds: the Anemonies are in great Perfection, and the Ranunculus's daily diſcover new Beauties.

Theſe let the Gardener manage as we have juſt directed him to treat the Tulips when in Bloom; and he will have the ſame Advantages. The Wind, Rain and Sun being kept off by moderate Covering, the Flowers will not only be much finer, but they will laſt double the uſual Time they do when expoſed to Accidents.

The beſt Method of defending them is by Hoops ſupported on Stakes, and a Covering of Canvas; thus there is Air enough, and the Time of drawing the Canvas over them is only at thoſe Hours, when none look at them: the Morning and Evening are the Times for viewing Flowers, not only as they are moſt freſh and vigorous at thoſe Times, but that a full Sun is not the proper Light for diſtinguiſhing their Colours.

The earlieſt Flowers of Spring are paſt, and theſe we have juſt named ſupply a middle Place between their Seaſon and that of Summer Plants. While they are protected to keep them in flower till the Succeſſion is ready to come in behind them, Care muſt be taken of the Roots of thoſe autumnal Flowers, and of the other Plants which are to follow.

The Amaryllis's, and ſeveral other of the autumnal Flowers we have deſcribed in the preceding Numbers, are now in a Condition to have their Roots taken out of the Ground. Let this be done with the ſame Care we directed for the Tulips; and let them have the ſame Advantage of drying gently upon Mats, in an airy Place, out of the Reach of the Sun.

When they are ſufficiently harden'd they muſt be ty'd up in Parcels, and preſerved till the Time of planting them, toward the End of Summer.

The Plants which are to come into flower in the ſucceeding Months, are partly the Perennials and hardy Annuals raiſed in the Borders, and partly the tender Annuals from the Hot-Beds. Of theſe there are a large Store, the Double Balſam, French and African Marigolds, Gomphrenas, and the like.

We have from time to time directed the hardening of theſe to the Air; and it will be very proper now to think of planting out the ſtrongeſt and forwardeſt of them.

They are, we will ſuppoſe, in Pots, and the Frames under which they ſtand have been accuſtom'd to be open'd for the admitting Air to harden them.

Let the Places in the Borders where they are to ſtand be mark'd out; and let Holes of a full Size and Depth; for the whole Ball of Earth contain'd in the Pot, be open'd for them.

The Evening of a cloudy Day is to be choſen for planting them, and let the whole Ball of Earth be ſhook out with them without breaking. The Surface will be cover'd with Fibres, which muſt be trim'd off, and the Ball ſet upright in the Hole.

The Mould muſt then be filled in about it, and ſettled by a gentle Watering; the Plants will be ſo far from receiving a Check from this Removal, that they will thrive the better.

The Earth kept about their Roots furniſhes a great deal of Nouriſhment, and from the Fibres cut off at the Surface of the Lump, there will ſhoot out innumerable others into the new Mould. If the Weather be tolerable they will thrive upon this ſurprizingly.

Some Weeks ago we directed the ſowing ſeveral of the hardy Annuals in Patches, upon the Borders where they are intended to remain. Theſe will be by the preſent Week in ſome Forwardneſs, and as they come early they will ſoon be paſt the Beauty of their flowering. There will be wanting a Succeſſion and Supply, and there are many Kinds which will now grow from the Seeds very well.

In diſtinct Parts of the Borders let there be now a freſh ſowing of the former, and ſuch other Kinds as will riſe under the ſame eaſy Culture.

The Seeds muſt be put into the Ground in the Manner we directed the others, and all the Difference of Management muſt be more free and frequent Waterings. Nature allows fewer Showers in this advanced Part of Summer.

The Kinds we would adviſe for this Weeks ſowing are Lobels Catchfly, the Dwarf Lychnis's, the Small Convolvulus, with ſome Lupine, Sweet and Tangier Peaſe.

The Hyacinth Roots are now to come under a very careful Management. Let the Gardener recollect what we have juſt ſaid of the Tulip, for Nature is uniform in her Productions, and the Root of one bulbous Plant fares as that of another after the Time of flowering.

Let the Gardener at this Time obſerve the Leaves of thoſe fine Hyacinths which are paſt flowering, he will find them ſoon begin to decay; and when it appears that the Roots ſend them up no more Nouriſhment, they are to be taken out of the Ground. They muſt not be now laid in the Air to dry, for they have a great deal yet to receive from the Ground.

When the Roots are up, let the Mould of the Bed be ſtirred and prepared for laying up into a kind of Ridge.

Let the Roots be carefully laid into this Ridge, not ſet upright as if for growing; but laid ſideways, nearly flat, and with the Bottom ſomewhat higheſt. All the Root is thus to be cover'd with Earth, and the Leaves are to be left out, hanging down by the Side of the Ridge. Here the Stalks and Leaves will thoroughly decay, and the Roots as we have obſerv'd of the Tulip kind, will all this Time be ſwelling and gathering Strength and Fullneſs.

When the Leaves and Stalks are entirely waſted, the Earth muſt be open'd, and the Roots taken carefully out and clean'd. They muſt then be ſpread on a Mat in an airy Room, to harden a little; and this done, they may be put up in Boxes till Autumn.

Something there is curious and intereſting in this Subject of bulbous Roots: we would have our Pupil a Maſter of every Part of his Subject, and we ſhall here explain it.

To the Student, the entering upon this Point will be pleaſing, becauſe he would know every Part of his Subject; and to the practical Gardener it will be uſeful, for he who beſt underſtands his Roots, will know beſt how to treat them. This Seaſon of taking them up is his Time of obſerveing their Structure, and we have here obtain'd an Opportunity for the Examination.

Of the Nature of bulbous Roots.

The Gardener ſees that Bulbs are not of the Nature of other Roots; their Fibres do not ſhoot from their Body, but from the Baſe or Neck, and they require a different Treatment from all others.

They are indeed not Roots, but Proviſions of Nature for the Defence of the Embryo Plant. The Fibres are the only proper Roots: theſe ſerve to the tender Plants which have them, as the Buds of Trees do to their young Leaves and Flowers: they ſurround, encloſe, and cheriſh them; preſerve them moiſt, and ſhield them from Injuries during the unfavourable Seaſons; and having perform'd that Office, they periſh: they are no more Roots in one Caſe than the other.

The Buds of Trees are compoſed of ſcaly Subſtances; and moſt bulbous Roots of Skins; ſome are of a tender, juicy, ſolid Subſtance: but in either Caſe the Root is a diſtinct Thing, and they fade in one as in the other Inſtance, when the Parts they at firſt encloſ'd, expand, and meet the Air.

It was early a Queſtion among the *Dutch* Floriſts, Whether the ſame Bulb that is planted in Autumn is taken up again the next Summer; or whether it in that Time decays, and Nature affords a new one, which the incurious Gardener ſuppoſes to be the ſame he planted.

Theſe from a coarſe and ſuperficial Obſervation, diſcover'd that the latter was really the Caſe; that the Bulb which produces the Flower is abſolutely exhauſted and deſtroy'd by it; and a new one takes its Place. This Doctrine, better and more accurate Trials have confirm'd; and we find it conformable to Experience as well as Reaſon.

The bulbous Plants are therefore a Claſs in Nature diſtinct from all others; tho' artificial Methods have not ſo diſpoſed them.

CLUSIUS has ſhewn great Sagacity in his Enquiry into this Subject, tho' he did not perfectly comprehend the Courſe of Nature in the Operation: FERRARIUS, one of the moſt accurate Writers on Flowers, and of all the moſt elegant, has perfectly underſtood, and finely pictured it.

This Author found that in the innermoſt Part of the Bulb whence the Stalk and Flower roſe, there was produced always another little Bulb, twin Brother with this more conſpicuous one; and that this draws at that Time Nouriſhment, not only by the Fibres of the Parent Root, but even from its Subſtance.

Its Place is cloſe to the Stalk of the flowering Plant; and when the flowering Seaſon is over, and the Stalk decays, the original Bulb decays alſo with it, and falls off in uſeleſs Pieces.

The Nouriſhment which while the Plant was flowering was given to all that, now is ſent all into the other, which ſwells and takes the Place of the decay'd one; and at the Time of taking up appear to the incurious Gardener the ſame he put into the Ground.

It is no wonder therefore that upon taking up the Bulb, the Stalk in its decay'd State is found adhering to its Side; for this is not the Bulb which originally produced it; nor is it wonderful the new one ſhould be flatted on one Side, ſince there the other adhered or preſſed againſt it.

This whole Conſtruction will be ſeen in the Root of a Tulip when juſt preparing in the Courſe of Nature for its Spring-ſhoot.

Let a Root be then carefully cut aſunder with a ſharp Knife, and there will be found the Rudiment of the ſucceeding Plant, its Stalk and Flower envelop'd curiouſly among the folded Leaves; and to the Bottom of its Stalk there will be ſeen adhering on one Side a little Lump.

This is no Part of the old Bulb, or of the riſing Plant: it is the Rudiment of the next Years Bulb; which now contains in it the Miniature Plant of the ſucceeding Year; too ſmall for the naked Sight, but evident to the Microſcope.

This grows ſlowly as the Plant of the preſent Year advances, for all the Juices are directed thither; but when that Office is perform'd, when the Flower has faded at its due Time, and the Gardeners Care has taken off the Poſſibility of Seeds, the Stalk and Leaves requiring no more Nouriſhment, all is ſent to the ſmall new Bulb. This ſwells and enlarges as the Subſtance of the other withers, and in a little Time becomes the Bulb taken up for the next Year's Plantation.

This in a practical Light ſhews the Propriety and Advantage of allowing Air to the Tulip Root when the flowering is paſt, and of laying the Hyacinth bulb horizontally in the Ridge, where the corrupted Juices of the thick Stalk and Leaves are not ſent down upon the Root, and where the new Bulb grows: in regard of Curioſity, and a Knowledge of Nature. The ſame Experiment ſhews plainly that the Bulb is no Root; we ſee it fed by the proper Root, encloſing a Bud, and periſhing in Succeſſion when the Time of flowering is over. It is therefore no more than the firſt Shoot of a next Year's Plant well cover'd, and defended from the Injuries of the Air.

The Student will hence ſee the Reaſon and Propriety of LINNÆUS, in calling it the *Hybernaculum* of the Plant; and will allow the Juſtice of all his Obſervations; that whether this is coated as in the Onion, ſcaly as in the Lilly, ſolid as in the Tulip, or form'd of jointed Plates as in the *Lathræa*, *Martynia* and *Adoxa*, ſtill its Nature and Office are the ſame; that it grows to the Root, but is not the Root; and that its Purpoſe is to defend the Plant, whoſe Embryo it contains, which ſerved it decays, and gives place to another like itſelf, deſtin'd for the ſame Uſe in the ſucceeding Year.

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SECTION II.

The Management of the SEMINARY, for this Week.

THE Plantation of the Spring is over, and now the Gardener's Care is required for thoſe he has put into the Ground: if they be now neglected, all his former Pains are vain: Weeds will ſtarve, or dry Weather parch them: theſe are the two great Articles of Attention, and theſe muſt be univerſal.

If the Seaſon be ſhowery, Nature does one half the Buſineſs, but the other will require the greater Attention; for the ſame Showers which refreſh his Plantations water her own Produce, and Weeds riſe up abundantly, and grow beyond Imagination.

Theſe muſt be every where deſtroy'd. New-planted Trees have Difficulty to attract enough Nouriſhment where all is free and open, but they muſt periſh where theſe rank Growths riſe among them.

Firſt then, let all the Beds of Seedling Plants and Trees be cleared from Weeds by Hand; and when the Earth is broken by pulling up the Roots, let there be given a gentle Watering, for it will take much more Effect at that Time than a natural Shower at another.

Then let the Rows of new-planted Trees be cleared. The Hoe will anſwer this Purpoſe when they ſtand cloſe; but in other Places the Spade is vaſtly preferable.

Where there is Room for this, as according to our Directions for planting there will be in almoſt all Inſtances, the Weeds are more perfectly deſtroy'd by it than in any other Manner, and the Showers falling afterwards take more Effect.

In this Work the Roots of Couch Graſs and Perennial Weeds muſt be pick'd out and thrown away; but the common annual Weeds, Groundſell, Sow-thiſtles, and the like; which are ſlight rooted and juicy may be bury'd in the Ground, there is no Danger of their riſing to be troubleſome again; and they rot and ſerve as Manure.

The Advantage of this is ſo great, that in the Spring Diggings where there have been no great Quantity of theſe annual juicy Weeds on the Spot, I have brought them from elſewhere and bury'd them in the Digging. They ferment, and not only give a Richneſs to the Ground, but a gentle Warmth at the ſame Time, which is highly ſerviceable to promote the ſtriking of new Fibres from thoſe tender Roots.

This Care taken of the growing Plants, let the Beds ſown in Spring, and on which there is yet no Appearance of any Shoot, be examin'd.

They will require Defence and Watering; a few looſe Buſhes anſwer beſt of any Thing for the former Purpoſe; for at the ſame Time that they keep off Injuries, they in ſome Degree mellow the Ground.

In regard of the other, as there is always Moiſture required for the Shooting of Seeds, the Temper of the Mould muſt be from time to time examin'd; and whenever it is found to be too dry for Vegetation, there muſt be allow'd a little Water.

There are no Rules to be given how often this muſt be done, for if there fall natural Showers they will ſave the Labour.

The Temper of the Mould will never deceive the Gardener; for as there is a Degree of Moiſture neceſſary to the Shooting of Seeds, ſo there is to the Preſervation of thoſe tender firſt Shoots, otherwiſe they will be parch'd up and periſh never to be reſtored.

SECT. III.

POMONA, or the FRUIT-GARDEN.

TO the Liſt of Fruits produc'd from the Forcing Frames at this Seaſon, which are principally three Kinds, Apricots, Cherries, and Plums, we before added Strawberries from the Hot-Bed; and Art, with all her Labour of Experiment, yet gives nothing more.

The Management of the Trees and of the Ground may be continued as the preceding Week, and this gives us an Opportunity of introducing, from a very ingenious and faithful Correſpondent, a pleaſing Method of ripening Cherries at this Time, and of bringing them to Table in a new Form.

Every one knows the Value of Fruit gather'd as it is eaten. We ſhall preſent the Reader with a Method by which it may be pluck'd at the Table, brought growing thither: by which a Cherry Tree becomes a Part of a Deſert, more elegant than all the fooliſh Mimickry of Art, in painted Leaves and Paper Flowers: and, to recommend the Practice farther, with all theſe Advantages, it is eaſier and cheaper than any of the common Methods.

To the AUTHOR *of* EDEN.

SIR,

Elſham, April 28, 1757.

“TO have Cherries in the elegant and pleaſing Manner I have mentioned to you, the Method I follow ſucceſsfully is this.

“In *March* I plant good Cuttings of the *Bird Cherry*, which, managing them as your practical Rules direct, and as Experience confirms, will be very well rooted by the End of the following *September*.

“The common Method is by Layers; but I have try'd both, and find the Cuttings every Way preferable.

“The firſt Week in *October* I plant theſe Cuttings in Two-penny or Three-penny Pots, according to their Size, and ſet the Pots up to the Rim in dry Earth.

“Thus the Froſt is kept out, and they live thro' the Winter.

“The Seaſon following I bud ſome of the earlieſt Cherries upon them, protecting them, as you direct, from Injuries.

“All will not ſucceed whatever Care is taken; therefore looking them over afterwards, where the Budding has miſs'd, I graft them with the ſame Kinds.

“The third Year theſe Trees will be fit to force. There now appears a great Advantage in the Management before directed. As they are budded or grafted near the Ground, and are planted in Pots, the Shoot riſes from a low Part, and the Growth is check'd by their being potted. They will not be at this Time above two Foot high, tho' full of Branches.

“The Place where they are forc'd need not be more than two Foot high. Any Heat will anſwer the Purpoſe of forcing them; Fire or Dung ſucceed alike; and I have obtain'd Fruit in the firſt Week in *April* from theſe Trees, under a common Hot-Bed Frame.

“This Year I ſent in to Table, on the Eighth of *April*, one of theſe Trees loaded with Fruit in full Perfection, by this cheap and eaſy Management.

“The Tree is not above eighteen Inches high; and the Opinion of the Company was, That there was on it at that Time a Pound of ripe and excellent Fruit.

“I uſually ſet the Tree in a handſome Pot, for this Purpoſe; and covering the Mould with freſh Moſs, ſprinkle over it ſome of the Spring Flowers. The Appearance is in the higheſt Degree pleaſing, and excels the common Ornaments of Deſerts, as Nature does Art on all other Occaſions.

“This Method, confirm'd by the Practice of the preſent Year, and authenticated by ſo many honourable Witneſſes, I have ſent to you, without Reſtraint; being deſirous that, if I can in any Particular improve or eſtabliſh the Profeſſion I follow, it may, by your Indulgence, be communicated to the Public.”

I am, with great Reſpect,

Sir, your moſt humble Servant,

T. BARNES.

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SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Products now in Seaſon.

BEſide the Remains of Winter's Produce, there are yet Radiſhes in the greateſt Perfection. The early Lettuces are alſo very good; and there are, by the Management we have mentioned, Peaſe and early Beans. Theſe bear the forc'd Method of their early Production better than naked Fruits, and, with good Care, may be very ſweet and well taſted. To theſe we may add *French* Beans, and, for the Credit of modern Gardening, Melons; ſome very fine and perfect ones appearing at this Seaſon.

CHAP. II.

Care and Management of the Ground.

THE Gardener muſt transfer into his Kitchen-Ground what we directed for the Nurſery: Weeding and Watering are as eſſential in this as in that Part of the Garden.

When Weeds are ſuffered to exhauſt the Nouriſhment, the Crop muſt ſtarve; and when Watering is deny'd, unleſs when Nature ſupplies it, all the fair Promiſe of the Crop will come to nothing.

Beans and Peaſe will be in Flower upon warm Borders, and theſe will require Watering more than any other Kinds, or more than themſelves at any other Time. If this be with-held, the Bloſſoms drop without ſetting for Pods; and the ſure Way to prevent it, is by giving the Waterings all over the Plants.

Let this be done with an even Hand; and let the Gardener ſee his Pot is in Order. Nothing is ſo common as a Flaw in the Noſe, and nothing ſo deſtructive. In the perfect Condition of that Inſtrument the Water falls as in a Shower; but thro' theſe Cracks it runs in a heavy Stream, breaking down the Footſtalks of Bloſſoms; and in Seed-Beds waſhing the Seed out of the Ground.

A great deal of ſowing Work may ſtill be done, both in new Kinds, and in providing for a Succeſſion of the others.

Peaſe, Beans, and French Beans may now be planted very ſucceſsfully. The Peaſe and Beans will require a good deal of Watering: leſs will anſwer for the French Beans, but they will require ſome.

The beſt Seaſon for planting out Radiſhes for Seed is the preſent Week. The Succeſs of the next Year's Crop depends entirely on this Article being now well manag'd, and there cannot be too much Caution.

Firſt, let the Piece of Ground choſen for them be dry, and expos'd to the Noon Sun. Let this be well dug, and then Lines be mark'd out upon it a Yard Diſtance, and Holes open'd a full Spade Depth, at a Yard aſunder, for the Reception of the Roots; and let the Mould be well broke at the Bottom.

This prepar'd, let the Gardener go to his Radiſh Beds, and take up Roots; let him chuſe carefully ſuch as he takes for this Purpoſe: they muſt be long, ſtrait, and ſingle Roots, with ſmall Tops. No crooked or forked Root muſt be planted for Seed.

When fine and well-ſhap'd Roots are thus choſen, let one be planted in every Hole, the Mould carefully fix'd about it, and a gentle Watering given to promote the ſtriking for Growth without any Check.

After this, the Perfection of the Seed is to be ſought by all poſſible Means, and the principal will be two; digging now and then between the Plants, as this Space allows Room enough for it; and at firſt gentle Waterings, if Nature denies Showers.

Theſe muſt only be allow'd while the Seed is ſwelling in the Pod; for afterwards, it is better to have it harden gradually.

This Care is eaſy, and the Reward is certain. The Gardener will next Year have the fineſt Radiſhes; and there is great Praiſe in excelling, even in common Things.

This Week let him go over his Plantation of early Cabbages, taking ſome ſoft Baſs in his Hand for tyeing them up. He will perceive the Leaves of many of them turn in: this is the firſt Advance toward Cabbaging: they will proceed in it but ſlowly at firſt; and, if left to Nature, it will in general be a long Time before any Thing is done effectually: but here it is that Art is needed.

Nature is not to be forc'd, but aſſiſted in her own Way: the Leaves that of themſelves bend in, muſt be gently brought nearer, and ty'd together, and thus the inner ones will cluſter and whiten.

Let two Pieces of dry light Ground be now dug up, and ſow upon them Salſafie and Scorzonera. The early Sowings yield their Crops in haſte in theſe two Kinds, and they ſoon after run up to Seed. Theſe will come in at a more advanc'd Period, but as they come later they will keep longer in Order; for the natural Time of their Flowering being paſt before they riſe to any Strength, they will not be in haſte to run to Stalk.

Let the Week be concluded by a general Weeding. The Hoe muſt be employ'd where the Hand is not requir'd, and where the Spade cannot come; and there muſt be no Corner left unclear'd now, becauſe many of the worſt Kinds are getting to Seed; and, unleſs deſtroy'd before that ripens, the Encreaſe will be intolerable.

EDEN:

A

Compleat Body of Gardening.

NUMBER XXXV.

For the Middle of *MAY*.

SECTION I.

FLORA, *or the* Pleasure-Garden.

CHAP. I.

Flowers now in their Perfection.

May. THE laſt Number we devoted to the Tulip, whoſe pleaſing Appearances under the various Diſtinction of Magnitude and Colour, the Botanical Student conſiders as Varieties, not ſeparate Species; but whoſe Production and Culture make an eſſential Part of the Gardeners Buſineſs, and when well executed, of his Praiſe.

We here propoſe to him in the ſame Manner that elegant Variety of Fritillaries, which paint the Borders at this Seaſon. Theſe, like the Tulips of thoſe ſeveral Names, are the original Produce of two original Species.

May. As the Gardeners Art has increaſed the Number of theſe Varieties, he has embelliſh'd them with new Colouring; ſo that the original Plants as gather'd from the Lap of Nature, with all their Chequerings, are poor in the Compariſon.

Theſe two original Kinds we ſhall firſt propoſe to the Reader's Conſideration. They will give the Botanical Student a true Knowledge of the Nature and Characters of the Plant; and the Gardener will view them with the more Curioſity, when he knows all his others riſe from them.

1. COMMMON PURPLE FRITILLARY.

Pl. 34. Fig. 1. This is an old Inhabitant of our Gardens, pleaſing by its Particularity, and for being raiſed with little Trouble. Every Gardener knows it, and all the Botanical Writers have treated of it: they have called it *Fritillaria* and *Meleagris*; ſome without Addition, others with the Epithet *vulgaris*, common *Fritillary*.

Linnæus, more diſtinct and accurate than theſe, diſclaims not only the trifling Epithet *vulgaris*, becauſe it expreſſes no Character, and is equally applicable to the other original Kind, as frequent in many Parts of *Europe* as this; but ſets aſide alſo the Addition of thoſe who thought they had judged better in calling it *Fritillaria purpurea*; for in the wild State this Colour of the Flower varies; and in Gardens without End.

He calls it *Fritillaria foliis omnibus alternis*, Fritillary with all the Leaves alternate. This diſtinguiſhes it from the other in which the lower Leaves ſtand in Pairs.

Our Gardeners Names of Chequer'd Lilly, and Chequer'd Daffodill, are wrong even for the Vulgar, becauſe they confound it with Plants, to which it is not ally'd. Tho' neither common, nor purple are ſo diſtinct as the Linnæan Term, they may very well ſuperſede the Uſe of theſe.

The Root demands Attention. It is bulbous, firm, and compoſed of two unequal Parts. From the Middle riſes a kind of Pillow, and from this the Stalk, whoſe Baſe is hung with many Fibres. The Subſtance of the Root is uniform, ſoft and white, and it is neither coated nor cover'd with Films.

The Stalk is round, upright, not very thick or ſtrong, but ten Inches high; ſpungy within, and cover'd with a tough green Rind, ting'd often with brown and purple.

The Leaves are placed from Top to Bottom with perfect Irregularity, five or ſix, ſometimes more grow on a Stalk; often fewer. They are long, narrow, of a deep green, hollow'd, ſharp pointed, and of an Acid Taſte.

From the Top hangs one large Flower: Culture gives many, but we treat here of the Plant in a State of Nature; or little removed from it in common Gardens. This bends its weak Stalk, and the Mouth opens to the Ground. It is large and extreamly beautiful, as well as ſingular. It riſes naked from the Stalk, without Cup or any other Defence. It is very large in Shape like a Bell, wide at the Baſe, and form'd of ſix Petals, which ſtand parallel, and are pointed at the Ends.

Near the Baſe of each of theſe is an oblong hollow, containing a Drop of Honey Juice. This is the Nectarium: each Hollow having its Gland for the Secretion of that Fluid.

Within the Flower are placed ſix Filaments. They cling about a ſingle Style, and they have oblong Buttons.

The Flower is follow'd by a ſmooth, oblong Seed-veſſel, of three Valves, which holds in three Cells numerous flatted Seeds, roundiſh, and placed in a double Series.

The ſix Filaments ſhew the Plant one of the *Hexandria* of LINNÆUS, his ſixth Claſs; and the ſingle Style one of the *Monogynia*.

The Colouring of the Flower even in its wild State, is not without its Changes: and it is in all beautiful. The general Tinge is purple, chequer'd with various Degrees of red and white.

The Variegations are not diſpoſed at random as in the Generality of painted Flowers, but placed in regular little ſquares; they are more diſtinct on the Outſide of the Petals, for within the Flower glows with a more uniform purple down the Middle of each: on the Outſide there alſo uſually runs a Rib of a yellowiſh Hue, adding no little Grace.

This is the Appearance Nature gives the Flower in the moſt favourable Soils; but from a Variety of Accidents it often declines from this its natural Luſtre. The purple grows faint, the yellow greeniſh, and the Variegations fade one into another. Always there remains, however, a great deal of Beauty.

In poor Soils the Plant will be ſmall, and the Flowers nearly or entirely white.

Of this Variety in Nature Culture takes Advantage; and what in her is Imperfection raiſes into Beauty. 'Tis ſo in the Tulips of which we have laſt treated; and we ſhall ſhew in many other Inſtances, that what Changes Nature makes in the Flower of a Plant in a ſtarving Soil, Art does by frequent Removals; and the Mould all the Time being rich to the Height, the Changes are all beautiful.

2. PURPLE PYRENÆAN FRITILLARY.

Pl. 35. Fig. 2. A ſhort Deſcription will explain this Species; whoſe general Form and Characters are the ſame with thoſe of the preceding Kind: it's moſt obvious Difference, in the Size and Colour of the Flower.

The Root is a double Bulb, ſoft, fleſhy and naked. In the wild State it is ſmall, but in Gardens it often exceeds that of the other.

The Stalk is ſlender, upright, green, and beſet with many Leaves. Theſe are long, narrow, ſharp-pointed, flatted, and of a freſh green. They ſtand irregularly on the upper Part of the Stalk, but on the lower Part in Pairs. 'Tis hence LINNÆUS names the Species.

The common Writers have called it from the Smallneſs of the Flower, *Fritillaria flore minore*, from its Colonr, which is a duſky blackiſh yellow; *Fritillaria flore obſoleto, luteo nigricante*; and from its uſual Place of Growth, the *Pyrenæan* and the *Aquitain Fritillary*.

Our Gardeners according to the Degree of Blackneſs, or of yellow in the Flower, call it the Black Fritillary, or Leather Coat. LINNÆUS, the moſt correct of Writers names it, *Fritillaria foliis infimis oppoſitis*, Fritillary with the loweſt Leaves placed oppoſite.

One Flower as in the other hangs naturally from the Top of the Stalk; and it is bell-ſhap'd, as in that; and form'd of ſix Petals; theſe turn their Edges a little upward, and are variouſly ſtain'd with yellow; the Ground Colour is a duſky blackiſh, and there is occaſionally more or leſs of the yellow.

The Edges that turn up ſhew a yellowiſh Hue: this with more or leſs Mixture of green is the Colour of the whole inner Surface; the Flower is there more gloſſy than without; and the whole is mark'd with irregularly chequer'd Spots of purpliſh. Theſe are moſt diſtinct toward the lower Part of the Petals.

Theſe Flowers have their Nectaria, their Filaments and Style as in the other; and are ſucceeded by a like Seed-veſſel, only ſmaller.

Culture of theſe FRITILLARIES.

Theſe two Kinds are Native of many Parts of *Europe*; and love a rich and ſomewhat moiſt Soil, where they have a little Shelter. The Foot of a Hill where there runs near ſome little Spring, and a Wood defends the Spot from the North, affords them their full natural Perfection.

From Plants which grow in ſuch Soil and Situation, ſhould be ſelected Seeds for raiſing them under yet more favourable Circumſtances in Gardens; and from theſe will be produced the ſeveral elegant Kinds which follow.

The ſtrongeſt of theſe Plants, or of the ſame Kinds in Gardens, ſhould be mark'd while in flower, and the Seed-veſſels cut off when they are ripe; this will be in the latter End of *July*. Let them be laid on a Shelf three Weeks to harden: then let the Seeds be taken out, and ſpread for a Week more; and at the End of this Time, which will be the latter Part of *Auguſt*, let them be ſown upon a Piece of good Ground in the Nurſery, open to the Morning Sun, but defended South and North.

Here let them be allow'd the common Management; weeded from time to time, thin'd where they have riſen too cloſe, and water'd often a little at once.

In the Beginning of the following Autumn take up all the Roots: plant them at three Inches Diſtance on a freſh Bed, in a like Situation, and allow them the ſame Care.

They may remain in this Bed to the Time of their flowering; which according to the Management, or other Accidents, will be the third or fourth Year. Then the beſt Plants muſt be mark'd; and at Autumn their Roots taken up, and planted in another Bed at five Inches Diſtance.

There will be thus produced many very handſome Flowers; and from theſe will be rais'd with Eaſe the following elegant Varieties.

3. ISABELLA FRITILLARY.

Pl. 35. Fig. 3. This is a very elegant Variety produced from the common purple Kind, and leſs diſtinct in Appearance than many of the ſucceeding. The Difference principally conſiſts in the Firmneſs of the Stalk, and Colouring of the Flower.

The Root is white and fleſhy.

The Stalk round, and toward the Bottom purpliſh.

The Leaves are very narrow, few in Number, placed irregularly, and of a pale green.

One Flower bends the Top of the Stalk, and this does not exceed the common Kind in Bigneſs, but greatly excels it in the Colouring.

The Baſe is wider and more rounded.

The Petals are broader in Proportion to their Length than in that Flower, and no Part of the Edge turns up.

Two Colours diverſify the whole; theſe are an elegant light red, and a clear green. They are diſpoſed in large ſquare Spots interchangeably, and the Edges of thoſe regular Figures are very diſtinct.

The Colours are brighteſt toward the Ends of the Petals, and more obſcure nearer the Baſe.

The great Merit of this Flower is the Brightneſs of the red, and the Diſtinctneſs of the Spots.

It is ſometimes produced from a firſt ſowing; but in greater Perfection from the ſowing again the beſt Kinds rais'd, as we have already directed, from wild Seeds.

4. GREAT UMBELLIFEROUS FRITILLARY.

Pl. 35. Fig. 4. This ſtands diſtinguiſh'd eminently from all the other Kinds by the Strength and Statelineſs of the Stalk, the Breadth and Firmneſs of the Leaves, and the Size and Number of the Flowers.

The Root is large and white.

The Stalk riſes to the Height of eighteen Inches, and is purpliſh at the Baſe, green upwards, and of a firm Subſtance.

The Leaves are conſiderably broad, long, ſharp-pointed, often twiſted, and of a deep green.

At the Top of the Stalk there are three or ſometimes more Flowers; very large, and conſpicuous alſo by the Boldneſs of their Colouring. They do not regularly hang down as in the other Kinds, but ſome droop more than others, and not unuſually one or more are nearly horizontal.

The Baſe is ſwelling and round; the Petals are broad and ſharp-pointed, and the Flower opens regularly without any turning up of the Edges.

The Colours are very fine, a deep lively purple, and a very agreeable greyiſh brown. This latter is the Ground Colour, and the Chequerings are of the purple. The whole Flower is of a gloſſy, poliſh'd Surface, and has ſome Lines of a yellowiſh green within. It riſes from the Seeds of the common purple Kind, but rarely perfects any itſelf. Nature is too much exhauſted by the Number of the Flowers to bring her laſt Work to Perfection. Therefore when the Gardener has obtain'd a Plant of it from the Culture we ſhall direct, he muſt encreaſe his Store by Offſets.

5. SMALL UMBELLIFEROUS FRITILLARY.

Pl. 35. Fig. 5. As the former is the utmoſt Luxuriance of Culture in the common Fritillary, this ſhews the Effect of extream Nouriſhment, and well regulated Plantation in the *Pyrenæan* Kind: it is a very ſingular and elegant Variety, and ſhews that the leſs conſpicuous wild Plant, is capable of perhaps equalling the fineſt under the ſame Management.

The Root is ſmall, and whitiſh.

The Stalk is firm, green, and eight Inches in Height: Culture rarely makes any conſiderable Alteration in this Article, though it covers the whole Length with Leaves, and crowns its Top with numerous Flowers.

The Leaves are long, moderately broad, and of a freſh and lively green: they are hollow'd, often wav'd or twiſted, and they ſtand irregularly, except at the Bottom, where they commonly are found in Pairs.

At the Top of the Stalk are plac'd four, five, or ſix Flowers, in an elegant Cluſter. Each has its ſeparate ſlender Footſtalk, and they all droop as in the other Kinds. The Points of many Leaves riſe above them, and give the Whole ſomewhat the Appearance of the Crown Imperial. This is not wonderful, for the Crown Imperial is alſo of the *Fritillary* Kind.

The Flowers are ſmall, hollow, angulated at the Baſe, and turn'd up a little at the Edges of the Petals.

The Colour is a deep duſky Purple, with Variegations of a yellowiſh green. On the Outſide the Colours are leſs diſtinct; on the inner Part they are much more regularly diſpos'd; and the whole Inſide is of a poliſh'd Surface.

This is produc'd from the Seeds of the *Pyrenæan* Kind; but, like the laſt deſcrib'd, it muſt, when once obtain'd, be propagated farther by Roots, for it ſcarce ever ripens any Seeds itſelf.

6. YELLOW ITALIAN FRITILLARY.

Pl. 35. Fig. 6. This is a Variety from the Seed of the common Purple Kind, but it varies greatly and elegantly from it in the Colouring of the Flower, and even in the general Conformation of the Plant.

The Root is large and whitiſh.

The Stalk is round, fleſhy, and firm, but rarely exceeds eight Inches in Height.

The Leaves are remarkably broad, leſs hollow'd than in the other Kinds, and obtuſe at the End. From the Top of the Stalk hangs one Flower. It is very large, and particularly beautiful; round at the Baſe, regularly open at the Mouth, and chequer'd all over with perfect Regularity.

The Ground Colour is a very fine Yellow: the Spots of a deep Crimſon, enclining a little to Purple; and the outſide and inner both have a gloſſy Surface. This ripens Seeds in great Perfection, and they ſhould be ſav'd with Care.

7. GREEN FRITILLARY.

Pl. 35. Fig. 7. This is a ſeminal Variation of the *Pyrenæan* Kind; and, if leſs worthy to be cultivated than ſome others for its Beauty, it has a Singularity that will very well ſupply the Place.

The Root is large, and in favourable Soils will ſwell to a Bigneſs beyond all Thought.

The Stalk is round, upright, green, and ſpotted with purple and brown.

The Leaves are moderately broad, and of a fine freſh green.

The Flowers hang from the Top of the Stalk, often two, rarely more; ſometimes only one; and tho' each, when there are more, has naturally its Footſtalk ſeparate, the two will ſometimes unite into a broad flat common Pedicle, and the Flowers grow from its Top together. This is a very ſingular and not inelegant Appearance.

The Flower is large, and compos'd, as in the others, of ſix Petals: they are rounded at the Ends, and naturally turn up a little at the Edges.

The Colour is a duſky yellowiſh green, ſpotted on the Outſide obſcurely, and within more diſtinctly with a deep blackiſh Purple. The Spots are not diſpos'd in Chequers, as are moſt of the others, but they are thrown together with a tolerable Regularity. This ripens its Seeds freely, and they ſhould be ſav'd for Sowing.

8. SNOWY FRITILLARY.

Pl. 35. Fig. 8. This is a Variety of the common Purple *Fritillary*, and tho' leſs ſpecious than the generality of the others, ſhould be preſerv'd by all who cultivate this Flower, for the Variety it gives among them.

Nature ſhews it in thoſe Places where the Plant is half ſtarv'd; as we ſee for the ſame Reaſon our Blue-bell Flower, and many other wild Plants, whoſe Flowers are naturally colour'd, become white thro' Want of Nouriſhment; but in thoſe Places the white is dead and duſky.

In Gardens, where ſome Accident in the Growth of the Seed brings on the ſame Change in the Flower, while there is no Want of Nouriſhment, the White becomes Satteny, bright, and delicate.

This is the Flower the Curious ſhould preſerve.

The Root is ſmall. The Stalk is round, weak, pale, and eight Inches high.

Three or four Leaves ſtand at Diſtances upon it, and theſe are narrow, long, hollow'd, ſharp-pointed, and of a lively green.

From the Top hangs one Flower: this is large, broad at the Baſe, and ſomewhat angulated, plain at the Opening, and form'd as uſual of ſix Petals, whoſe Extremities are pointed.

The Colour is often a pure and perfect White, like Snow. Sometimes it has a Creamy Tinge, and ſome Flowers ſhew a pearly grey. All very elegant, with a lively Aſpect and gloſſy Surface.

The ſame Seeds will produce others, which are duſky, and want the proper Luſtre; but theſe ſhould be deſtroy'd.

The White, which is generally uniform and entire, admit ſometimes a faint Variegation. This is not in Chequers, but in a kind of little Creſcents.

It ripens Seeds, but they need not be ſav'd. I have, from repeated Experience, found them weak in the Principle of Growth, and there is no Certainty of their producing the ſame Flower.

1
Common Purple Fritillary
2
Purple Pyrenæan Fritillary
3
Isabella Fritillary
4
Great Umbelliferous Fritillary
5
Small Umbelliferous Fritillary
6
Yellow Italian Fritillary
7
Green Fritillary
8
Snowy Fritillary
9
Double Fritillary

9. DOUBLE FRITILLARY.

Pl. 35. Fig. 9. We cloſe the Account with a Variety of the ſame common Purple Kind, which demands great Attention.

The Number of Petals in the Flower have been obſerv'd to be alike in all we have yet nam'd, however the Flowers themſelves may have been multiply'd upon the Stalk: in this luxuriant Culture, takes its natural Courſe as in many other Flowers, and encreaſes the ſpecious Elegance, by adding to the Number of thoſe conſtituent Parts.

The Root is fleſhy, white, and large.

The Stalk is upright, firm, and pale; ſometimes ting'd conſiderably with Purple.

The Leaves are narrow, and of a pale but pleaſant green. They ſtand irregularly, and are not very numerous.

One Flower terminates the Stalk, and it hangs drooping, tho' uſually leſs ſo than the common Kind. It is very broad in Proportion to its Length, and is compos'd of twelve Petals, ſometimes more. But moſt uſually it is the double Quantity of the common Kind.

The Colour is throughout a duſky Purple, but there is great and beautiful Variegation. The Ground Part has the Purple faint, and mix'd with a great deal of green. The Spots are perfect Purple, and they are regularly ſquare, and plac'd in the exact chequer'd Order.

This Flower will ripen Seeds, but they have not the Strength of thoſe from the ſingle Kinds, nor will they regularly produce double ones. It ſhould therefore be encreas'd by Off-ſets.

CULTURE *of the* FRITILLARIES.

Theſe and the other *Fritillaries*, deſcrib'd in our preceding Numbers, are all produc'd originally from the two Kinds here firſt deſcrib'd, the common Purple and the *Pyrenæan*.

We have added to their Deſcriptions the Culture they require, and from the Plants ſo rais'd the Seeds are to be collected for the Production of theſe more ſingular and more conſpicuous Flowers.

In all the bulbous Kinds the Seedling Plants ſhew a Variety of Colouring. It will be ſo here. The Plants rais'd, as we have directed, from wild Seeds, or thoſe of the wild Kinds, unalter'd in the Garden, will ſhew ſome Flowers better, and others worſe colour'd; and ſome Plants ſtrong, and others weak.

We will ſuppoſe this firſt Care over, and the Gardener ſtock'd with theſe Kinds: a Bed of the common, and another of the *Pyrenæan*.

1. *The Seed.*

Let him watch theſe from their Beginning of Flowering to the End, for ſome will be earlier, ſome later; and mark for Seed the boldeſt and moſt promiſing Kinds, by tyeing them up to Sticks. This enſures the Plants without Miſtake, and the Seed will ripen the better for the Stalk being kept from rocking with the Wind. The only Care muſt be that the Root is not hurt by the thruſting down the Stick.

The Plants to be ſelected, are thoſe which have a ſtrong Stalk with a few Leaves on it; and have the Flower large, wide at the Bottom, and regularly opening at the Mouth, with the Points the leaſt ſharp that can be.

In the common Purple they ſhould be quite ſtrait, neither turning in nor out; and in the *Pyrenæan* they ſhould all regularly turn up a little of the Verge.

Theſe are the Marks to be obſerv'd for ſaving Seed, as to the Colouring it is not material: the Chance of Culture gave it at the firſt, and will continue to give it from whatever Kind: in this the Seed takes no certain Effect; but the Bigneſs and Shape of the Flower, and the Firmneſs of the Stalk, are often influenced by it greatly.

When theſe are mark'd, the uſual Care muſt be taken to make them bring their Seeds to good Maturity. The Plants all about them muſt be cut down; and the Mould ſtir'd frequently, and water'd a little at a Time, and often.

The Seed-veſſels muſt be cut off when full grown, and harden'd with a Part of the Stalk, and laid on a Shelf a Month: the Seeds muſt be then air'd looſe about a Week, and by that Time they will be in perfect good Condition for ſowing in a proper Soil.

2. *The Compoſt.*

Mix one Barrow of Pond-Mud with two Barrows of rich dry Paſture-Earth, and half a Peck of Hens Dung. Work theſe well together, then add half a Buſhel of River-Sand, and break them well again. The Whole will now come into a fine, mellow, and equal Mixture.

The beſt Time for this is as ſoon as the Flowers are mark'd for Seed. Let it be ſpread a Foot thick, in a ſhady Place, and once in ten Days turn'd.

In the Middle of *Auguſt* make two or more Boxes of rough Boards, a Foot and half deep, and of ſuch Bigneſs as can be conveniently manag'd. Bore four or five Holes in the Bottom of each; lay ſome Oyſter-ſhells over the Holes, and pour in the Compoſt, till they are nearly fill'd.

Set the Boxes where they have the Morning Sun, and ſcatter on the Seeds pretty thick. Sift upon them a Finger's Breadth of the Compoſt, and lay over the Whole a light Covering of Peaſe Straw. Let this be taken off when the Mould is dry, that it may be water'd. This muſt be done with a light and regular Hand; and no Moſs or Weed be ſuffer'd to appear upon the Mould.

In Winter the Boxes muſt be remov'd to ſome Place where they will be defended from the North, and open to the Sun. In Spring let them be plac'd where they were at firſt.

When the young Plants have ſo much Strength that the ſtrongeſt can be diſcern'd from the reſt, let the others be clear'd away where they riſe too thick, and only ſuch a Number left in each Box as can be ſupply'd with Nouriſhment.

Keep the Surface clear from Weeds, and water it whenever the Mould is too dry. This muſt be the Management while the Plants keep their Greenneſs.

When the Leaves are faded, let half an Inch of the Compoſt, that was left, be ſifted over them, and let them have the ſame Care they had the preceding Year.

The next Summer, when the Leaves are faded, let the Mould be all taken out of the Boxes, and ſifted. The Roots will be thus ſeparated, and they muſt be immediately planted in a Bed of the ſame Compoſt, ſhelter'd from the North and from the Noon-day Sun.

They ſhould be ſet here at four Inches Diſtance, and left to flower.

There will be a great Variety: but let none the firſt Year be deſpis'd.

When the Leaves are decay'd they muſt be taken up, and immediately planted again, at five Inches Diſtance, in freſh Compoſt. This will give them a great Advantage for the next Year's Flowering, and the Gardener will then be able to make ſome Judgment of their Value.

3. *Of the Management of the Roots.*

After the ſecond Year's Flowering, which is uſually the fourth from Sowing, the Roots are to be conſider'd as arriv'd at full Maturity, and to be treated differently, according to the Diſtinction we have laid down of thoſe which ripen Seeds, and ſuch as are to be encreas'd by Root.

For this Tranſplanting therefore two Beds ſhould be provided, the one larger, for receiving thoſe which ripen Seeds, and the other for the Kinds which are to be encreas'd by Root.

For this Purpoſe, let him mark by ſeparate Sticks, while they are in Flower, thoſe which have more than one Flower upon the Stalk, and thoſe which have more than ſix Petals in the Flower. No Matter whether there be three or four Flowers in the firſt Caſe, or twelve Petals, as we have deſcribed in the perfect double Flowers. If there be more than one upon the Stalk, or more than ſix Petals in a Flower, continued Culture will bring them to the full Perfection.

The Bed muſt be very well prepar'd for theſe; for they are, after this Plantation, not to be remov'd for three Years. Let them be ſet at ten Inches Diſtance in the new Compoſt, and the Ground kept clear from Weeds, and never ſuffer'd to be too dry.

This will be all that is requir'd in the Summer Months; but every Autumn there ſhould be half an Inch of freſh Compoſt ſifted over the Bed; and in the ſevere Froſts the Ground ſhould be covered with Peaſe-ſtraw.

Theſe being diſpos'd in that Manner, the larger Bed is to be prepar'd for the others. They muſt be taken up as ſoon as the others are planted, which ſhould be when the Leaves fade; and they are not to be kept out of the Ground, but immediately ſet again. They ſhould be allowed eight Inches Diſtance: and this Management repeated every Year, giving them always freſh Compoſt.

Thus will a Foundation be laid for the moſt perfect Stock of this ſingular Flower.

The many flower'd and double Kinds, will, during their three Years ſtanding, grow to full Perfection; and when they are, at the End of that Time, taken up, a Number of Off-ſets will be found ready for ſeparating by way of Encreaſe.

The others, in the ſame Manner, will flower each Year more and more perfectly: every Seaſon the fineſt of them ſhould be mark'd for Seed; and each Autumn there ſhould be a new Sowing.

This is the Method practis'd by the *Dutch*, who exceed all *Europe* in this Flower: and there not only is the Amuſement ariſing from ſo continual an Improvement, but they make a very conſiderable Profit, by ſelling the Roots they can ſpare, after ſelecting the fineſt for their own Gardens.

CHAP. II.

The Management of the Flower-Garden, for this Week.

THE beſt Beauties of the Flower-Garden are now in their great Glory, every thing therefore ſhould be conſulted that can continue them in that Perfection; and every Part of the Ground kept in Order, that the Eye may not be diſguſted in one Place, while it is entertain'd in another.

Let the Caution of ſhading the Beds of the finer Kinds, be obſerv'd as we have directed already, and let them occaſionally have Water.

The Borders, the Graſs, and the Gravel-Walks, ſhould all be now kept in the moſt perfect Order: the Gravel roll'd often, and clean from the leaſt Appearance of a Weed; and the Borders not only weeded, but ſtir'd and rak'd once in three or four Days.

He who does this, muſt be very well acquainted with the Places of the Flowers, that he do not hurt them; and, with that Caution, all will be pleaſing and uſeful. The Surface will have a continual Look of Culture, and the Roots will be refreſh'd.

Take up the Roots of the fine *Colchicums* this

Week, and clean them: then ſpread them out on a Mat in a dry airy Room, and when they are a little harden'd, put them up till the Time of planting, which ſhould be about nine Weeks after the taking them out.

A great deal depends upon the Management of Roots in this reſpect, and the different Kinds in general require a various Conduct. If theſe be kept too long out of the Ground, the Flowers not only will come late, but they will be poor: the Tulip requires a longer Time of being out of the Earth; and the Fritillary, of which we have treated particularly in this Number, will ſcarce bear to be out at all.

There is in many of the bulbous Kinds a Time of Reſt between the Decay of the Leaves, and the ſhooting for the next Bloom.

If this be carefully attended, and the Roots kept ſo long out of the Ground, the Purpoſe of Nature is more perfectly anſwer'd than it can be while they remain under the Earth. No wet warm Seaſons can ſet them to growing at an improper Time; nor cold Damp rot them.

When committed to freſh Earth after this abſolute Reſt, they draw their Nouriſhment with more Vigour, and the Bloom is always finer: but if the due Period be not obſerved, all is the worſe for taking them up. Practice, not reading, muſt inſtruct us in this nice Point; for hitherto they who have written have either miſtaken, or concealed it, in many Inſtances. What we lay down as the Rule is the Reſult of Trial; and if it differs from theirs, 'tis becauſe we have found it better.

The tuberous rooted Flowers of the ſame Seaſon with the Colchicums, will be at the ſame Time in a Condition to be removed. Theſe are not to be taken up and laid by as the others; but planted afreſh like the Fritillary, as ſoon as taken out of the Ground.

They have a Time of Reſt as well as the others, and it is marked out to the Gardener by the ſame Signal, the Decay of their Leaves.

This is the Time when the Vegetation of one Seaſon is over, and that of the next is not begun. This therefore is the Time when they beſt bear Removal; and being planted in a freſh Soil immediately, they are encouraged to ſhoot ſtrongly for the autumnal flowering. The autumnal Cyclamen may ſtand as an Inſtance for this Practice.

This Week let the Gardener ſee in what Places the climbing Plants may be proper; and commit to the Ground their Seeds. They will have a Chance ſtill of coming to Perfection; and if wet follows, will often be the fineſt of their Kind in the Ground. The Indian Creſs, the larger Kinds of Convolvulus, and the Sweet-pea will all be proper.

The Carnations will now ſhew the Buds for their flowering. This ſhould be watch'd, for it is a critical Time, and a great deal of Advantage will ariſe from a careful and judicious Management; what is to be done depends on this one Principle.

The Carnation is ſo large a Flower, and has ſuch a Multiplicity of Petals, that it requires the full Nouriſhment which can be convey'd to it from the Quantity of Mould its Pot contains.

Therefore let the Plant be now examin'd carefully. Let all decay'd Leaves be taken off. Let a ſmall firm Stick be thruſt down as cloſe as can be to the Stalk, without hurting the Root: and to this let the Stalk be ty'd between every Joint. The Stick and the Worſted ſhould be as near as poſſible of the Colour of the Stalk to conceal this.

Let the Gardener then examine whether there be more Buds than one: if ſo, they muſt be diſplaced now before they exhauſt the Nouriſhment; for the Earth being barely ſufficient, with the beſt Management, to bring one Flower to its full Perfection, two muſt ſtarve each other.

Let the Mould be ſtir'd gently at the Surface, and ſome freſh rich Compoſt ſprinkled over it; and let the Pot be ſet where there is moderate Sun, and let it have frequent Waterings.

When the Bud is near burſting, the Stick ſhould be cut off juſt below its Baſe; and it will thus be ſupported perfectly, and diſcloſe its Fullneſs without Conſtraint.

Let the tendereſt of the Annuals raiſed in Hot-beds now have their laſt Removal. The reſt are by this Time in the open Ground, theſe muſt not be truſted out of Pots; and they ſhould now be allow'd ſuch as are of a due Bigneſs. Theſe muſt be filled with the richeſt Garden Mould, unleſs the Plant be ſuch as require a particular Compoſt; and they muſt be planted into them with all poſſible Caution.

The Pots muſt then be ſet upon a Hot-bed that has loſt its firſt Heat, and it will be a great Advantage to them if a Quantity of light dry Mould be thrown in between them.

The Tuberoſe is a Flower of ſo much Beauty and Fragrance, that all Care ſhould be taken not only for its flowering in good Condition, but for a Supply of one Set after another.

The firſt Roots we have directed to be put into a Hot-bed will be coming very forward, and the ſeveral ſucceſſive Plantations will follow one another according to their Time.

We now adviſe the laſt: let ſome good Roots be ſelected, and a Hot-bed choſen that has moderate Warmth. Thoſe we order'd to be planted earlieſt will be in flower in the Beginning of next Month; the others will come in their due Time afterwards, and theſe which are planted now will flower about *October*.

There is nothing better for planting them in than rich Garden Mould. The Roots muſt be well examin'd before they are put into the Pots, for by this Time many will be decay'd. When found to be perfect, the outer Skins muſt be taken off; and if there be any Off-ſets, they muſt alſo be taken away.

The Root thus clean'd, muſt be planted in a ſmall Pot of this Mould, and cover'd about a Quarter of an Inch.

The Roots being all planted, let the Pots be ſet upon the Mould in the Hot-bed; and a little of it juſt gather'd up about their Bottoms. Then let the Glaſſes be let down. Till the Leaves begin to appear, let them have no Water; and only a little Air, by opening the Glaſſes in the Middle of the Day.

When the Leaves appear they muſt be water'd, and this repeated every two or three Days, and they muſt be harden'd to the Air.

Their Management after this muſt be the ſame with the others: they muſt be brought up by repeated Waterings to a Condition of flowering; and then they muſt be kept out of the Sun, and out of the Way of other Accidents. They will thus continue a long Time in flower.

We have ſhewn how the Tulip, and other elegant Flowers, preſerve their Beauty when kept from the Sun and Rains, and 'tis the ſame in this; indeed in all. Winds rock the Stalk, it becomes looſe at the Root; and the Fibres torn from their Hold, afford no Nouriſhment. This Way it decays: Rains beat it down, or drench the Flowers irrecoverably: beating in the Duſt of the Buttons upon the Surface of the Petals. This Way alſo the Beauty is all loſt; and often the Lodging of a little Wet deſtroys it yet more effectually. The Sun exhales the Juices, and draws on the ripening of the Seeds.

Theſe three Ways the tuberous, and theſe all other Flowers, are brought to decay. Once for the whole Number therefore let the Gardener take this Leſſon; faſten them up to Sticks to guard againſt the Winds, and ſhelter them from Sun and Showers, except when both are moderate.

CHAP. III.

The Management of the Green-houſe and Stove.

THE Seaſon now points forth the bringing into the open Air, thoſe Natives of warmer Climates which we have been oblig'd to ſhelter from our Winters: and to admit more Air to thoſe which will not at any Time endure the free Breath of our Country.

The Green-houſes are to be emptied into proper Parts of the Garden, and the Stoves to be refreſh'd with proper Airings.

This Week let the Orange, Lemon, and Citrons, and all the others of their Quality, be brought out into a warm and ſhelter'd Situation; where they will ſtand open to the Sun, and where no cold Winds reach them.

The Preparation for this ſhould be made a few Days before; and if the Gardener pleaſe, he may begin with that the firſt Days of the Week, and bring them out at laſt.

We have told the Method of cleaning them, let it now be repeated; the better it has been done before, the leſs Trouble it will give now; but ſtill let it be done: no Filth ſhould be left upon any Branch, no decay'd Leaf on the Tree.

This done, let the Surface of the Mould be ſtir'd; and lay on it an Inch Thickneſs of ſome light Compoſt, mix'd with a Handful of Wood-ſoot. Give a gentle Watering when all this is finiſh'd: not only the Mould muſt be water'd, but the whole Shrub: it cleans thoſe Leaves the common Care did not reach, and refreſhes the Shrub.

This done, let all the Air that can be admitted have free Courſe into the Green-houſe for three or four Days; and then in a mild Evening bring them out, and place them where they are to ſtand for the Summer.

In the ſame Manner treat all thoſe which bear abſolute Expoſure.

There will be yet a Number which will not ſtand the Cold of our Nights unſhelter'd, but yet will at this Time endure a great deal of the natural Quality of our Climate. Theſe will require a great deal more Air now than they had in Winter, and there will be Opportunities of giving it.

The greater Part of the Green-houſe Plants are thoſe we have treated of already, which will now require abſolute Expoſure: theſe taken out the others will have Room; and they muſt now be brought to the Windows, and have as much Air as poſſible with any degree of Defence: all Day they muſt be perfectly expoſed at the Windows, except two Hours in the extream Heat, when that is ſultry, and there are no Clouds.

In this Time the Glaſſes muſt be a little ſhaded, at all others they may have the free Air; and the Building defending them from the Cold of the Nights, they will have Encouragement to grow freely and ſtrongly, and be in no Danger of chilling. They will get a freſher and ſtronger Colour, and their Shoots will be more firm.

Theſe ſhould now be treated as the others, clean'd in every Part, freed from decay'd Leaves, and refreſh'd by ſome new Mould, after ſtirring the Surface of that in which they grow.

This Care is all requir'd in the Green-houſe, and for the Plants which properly belong to it; thoſe of the Stove are to come under Conſideration. Theſe will require Air, and they will be greatly aſſiſted in their Growth by moderate Sunſhine; but there are Days in which they cannot bear it entirely.

The moderate Hours the Glaſſes muſt be open'd, and free to admit that temper'd Warmth.

In the Evenings they muſt be clos'd to keep out the Cold that will attend even our warmeſt Seaſons; and in the Middle of bright Days, when there are no Clouds, and the Sun has all its Power, the Glaſſes here muſt be ſhaded: elſe it wou'd exhauſt too much.

Many of the moſt elegant Kinds in this Department will now require tranſplanting. We have directed ſuch as have been rais'd from Seed, to be planted in little Pots, and ſet in the Bed. Theſe, as they encreaſe in Bigneſs, will require more Compoſt for their Roots, and this is the Time to give it.

The Compoſt for each we have directed: we always adviſe more to be made than is immediately wanted, for it will be requir'd afterwards on theſe Occaſions, and it gets Good by lying.

The Gardener knows that thoſe which we have directed him to make for the particular Plants, of which we have treated, are not peculiar to them. 'Tis with theſe artificial as with natural Soils: each Plant has its proper Kind, but not every one a peculiar Mixture.

As the wild Plants which grow in one dry Soil, will alſo live in another, tho' they would periſh in a wet one; and, on the contrary, the Plants native of damp rich Mould, would wither ſoon in Sand, but will yet grow in many Mixtures which have that general Character; ſo among thoſe Plants we raiſe from foreign Seeds, each has a kind of Soil in which alone it will grow, tho' it be not limited to any one particular Mixture of that Quality.

Thus the Compoſts being underſtood, in Reſpect of their general Characters of light, rich, dry, mellow, and the like, that made for one Plant, may on Occaſion be us'd for any other which is naturally the Produce of a Soil of that general Nature; tho' it would be Folly to attempt the raiſing it in one of a contrary Kind.

This rightly underſtood, will ſave the Gardener a great deal of Trouble. It would be endleſs to make and keep up one particular Compoſt for every Species he raiſes. Thoſe we direct for the ſeveral Kinds here treated of, will ſerve all others; and in the preſent Inſtance, the Gardener may take, inſtead of the particular Compoſt made for that Plant, if it be exhauſted, any one of thoſe of the ſame general Kind.

Let him bring in, for this Purpoſe, a Pot of proper Size, and filling it three Parts with the Compoſt, ſet it up to the Rim in the Bed in the Stove.

Let it ſtand thus three Days: in that Time the Pot and Mould will both be brought to the ſame Temper with the Air of the Stove, without which the Plant would certainly be check'd, and might be loſt, by the Removal.

Let the Pot of Compoſt, and that containing the Plant, be taken out of the Bed in the Evening of a mild Day, and the Compoſt pour'd out of the new Pot, except as much as will lie an Inch and half thick at the Bottom.

Then let the Plant be clean'd, the Stem wip'd, the decay'd Leaves, if any, pick'd off, and the Shoots, where needful, ſhorten'd. Let it be taken out of the ſmall Pot, with the Ball of Earth entire, and the Fibres on the Surface trim'd: then let it be ſet upright in the Middle of the larger Pot, with its Ball undiſturb'd; and let the freſh Compoſt be carefully pour'd in round it, till the Vacancy is fill'd, and the Ball covered about three Quarters of an Inch. This done, let the Whole have a gentle Watering, and the new Pot be ſet into the Bed as the other was. There will be no Check perceiv'd from this in the Growth even of the tendereſt Kinds.

This done, let the Plants in general be carefully looked over. The Gardener has been ſufficiently caution'd againſt ſuffering them to be foul, and he muſt now repeat his Labours to prevent it.

The Duſt which gathers on their Leaves choaks up the natural and neceſſary Pores, and the Plant wants their Service. If this be permitted it grows ſickly: the Juices ſtagnate, and when they ſtagnate they putrify: this makes them Food for Inſects; and wherever that Food is, the little Myriads come. We ſee it in blighted Trees, and 'tis the ſame here.

Duſt, which obſtructs the Pores of theſe tender Plants, has the ſame Effect with Cold, that ſtagnates the Juices in thoſe hardier Shrubs and Trees. Inſects follow: the Vulgar have hence thought them generated of the Duſt; but 'tis the ſame Thing to the Gardener, whether the Inſects are produc'd from this Accident, or brought thither by it. Let him take Care to clean off the Foulneſs whenever he perceives it.

Let the Mould on the Surface in all the Pots be broke and refreſh'd by a ſmall Addition of ſome Compoſt of like Kind; and let the ſeveral Plants, according to their Nature, have now and then a gentle Watering, from a fine-nos'd Pot.

SECT. II.

The Management of the NURSERY, for this Week.

THE Buſineſs of Tranſplanting, which we have order'd in the Stove, may be continued alſo in the open Air, for certain Kinds, and on particular Occaſions. In the Nurſery of Flowering Plants for the next Year, this Buſineſs is to be manag'd with due Care.

In our Numbers for *March* and the Beginning of *April*, we directed the ſowing of Hollyhocks, and many other of the Biennial Kinds. Theſe are to make their Appearance in the Garden the following Year; and they are to be prepar'd for it by proper Removals. They are now cluſter'd in the Seed-Beds, and will naturally crowd and ſtarve one another.

Let a Piece of Ground be dug up in a Part of the Seminary, open to the South-weſt, and where the Soil is not too rich. Let this be mark'd into as many Diviſions as there are Kinds of theſe Plants; and Holes open'd at four or five Inches Diſtance, for the Reception of as many of them as it will be thought convenient to raiſe. Let the ſtrongeſt of thoſe from the Seed-Beds be carefully planted into theſe, and the Earth ſettled about them by a gentle Watering.

After this, they will only need to be kept clear from Weeds, and to have a few Waterings: they are to remain till the Middle of *September* in theſe Beds, and are then to be taken into the Garden, and planted where they are to remain, as we have directed in a former Number.

This Week let the Gardener look over his grafted Trees; and give them Liberty at the Bandage. He covered them with Loam, or faſtened with Baſs, and there is now no farther Occaſion for thoſe Additions: they will be rather hurtful than ſerviceable; the Loam ſtopping the Pores of the Bark, where Perſpiration is now required; and the Bandage pinching at the Stock, there will be Danger of the Winds breaking them off. Let the Loam be clear'd away, and the Baſs unty'd; and with a Flannel wetted in Water juſt made Milk-warm, let the Part be waſh'd clean.

Wherever there is a vigorous Shoot from a Graft, it muſt now be ſecur'd by a Stake, and by careful tyeing up, otherwiſe the Wind will have too much Power for it; and very probably will tear it off.

The Seedling Trees which have been rais'd in ſeparate Beds in the Seminary, will now require frequent Waterings. We have directed the Gardener before to weed them carefully from Time to Time, and the Watering muſt be given an Hour before Sun-ſet, and in a regular Manner.

Their Shoots are tender, and the Weight of too much Water may ſpoil their Shape irrecoverably. The ſmaller may alſo be deſtroy'd by it entirely; inſtead of being aſſiſted in their Growth, their Roots being bared, and the Sun afterwards parching them up.

This Week let the Gardener take the Advantage of a ſhowery Day, if any happen, for the laying ſome Branches of thoſe Shrubs and Trees, which will not readily take Root, except by the Shoots of the ſame Year's Growth. This is the Caſe with ſome of the Evergreens, and with the Generality of the woody climbing Plants.

Let the Mould be very well broke; the Branch brought down without too much Violence, and ſecur'd by two or three ſtrong Pegs. Let the Top be left out of the Ground only four Inches, and let ſome light Inciſions be made near the Joints in the Part that is cover'd.

After the Mould is laid on, give a gentle Watering, and ſcatter a little Peaſe-ſtraw over, to detain the Moiſture. Let the Mould be from Time to Time examin'd and refreſh'd with Water as it grows dry; and in this Manner there will not one Layer in a thouſand fail.

Let the Plantations ſomewhat advanc'd in Growth, be from Time to Time weeded; and, in dry Weather, water'd.

Let the Stakes, which have been plac'd to ſecure thoſe Trees which have been newly planted, be examined, to try whether they remain firm; and if not, let the Bandages be unty'd, and the Stake driven farther into the Earth with a Mallet; and the Tree then ty'd up to it again.

This is a needful Caution; for the hot Weather that is coming, is very improper for any rocking or ſwaying of new-planted Trees. The Mould having leſs Moiſture than at other Times, to detain it about the Roots, and hold them together, will ſeparate from them with the Motion; and the dry Air let in at the Opening, which the Stem never fails to make upon rocking about will utterly deſtroy them. No Seaſon is ſecure from rough Winds; and this is the Time when their Effect can leaſt of all be borne.

If any of the new planted Trees, tho' firmly ſecur'd, and at Times water'd, ſhew Signs of Decay, break the Earth lightly all about them with a Spade; and after giving a gentle Watering, lay all round ſome Turf from a Common, cut tolerably thick, with the graſſy Side downwards. Let there be from Time to Time Waterings given, without removing the Turf; and the Mellowneſs of the Ground, and the good Temperature it gets this Way, will promote the ſhooting of new Fibres.

SECT. III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

Fruits now in Seaſon.

THERE will be a new Supply of Fruits from the Forcing Frame by this Time; and ſomething will begin to add itſelf from Nature: better Plums will be obtain'd from the artificial Means than before, and there will be ſome Nutmeg Peaches. This, as the other forc'd Fruits, will

May.

will be inferior by many Degrees to what the natural Trees yield afterwards; but the Gardener has Credit not only from the Excellence of his Products, but from their early Seaſon.

The Strawberries from the Hot-Bed will be now put out of Countenance by thoſe from the natural Ground. Theſe, when they lie in a favourable Situation, and have a rich, and at the ſame Time warm Soil, will begin at this Time to preſent themſelves for the Table, and every Day will give a new Succeſſion.

May.

Some Cherries of the earlieſt Kinds will alſo be in Perfection from the natural Trees; and theſe with the few Remains a careful Management has ſaved thro' Winter, from the Stores of Autumn, will furniſh a Deſart in tolerable Elegance. There will alſo be for the Service of the Confectioner, Apricots, Gooſeberries and Currants for Tarts.

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CHAP. II.

Care and Management of the Ground.

THE Wall-Fruit which are by this Time coming forward very finely, will require the Gardener's frequent Regard: they are expoſed to many Devourers; and they are often produced ſo thick upon the Trees, that the firſt thinning of them ought to be begun at this Time.

We ſhall direct in the End that they be thin'd beyond the common Cuſtom; for the Love of a great Shew of Fruit, in general prevails over the better Thought of its Excellence; and prevents it.

The Queſtion is eaſily reſolved, Whether one Hundred of excellent Fruit is not preferable to two Hundred of indifferent: certainly every Maſter of a Garden will ſay it is. This directs the clearing away more than is uſually done, and let not the Gardener now be afraid of making a free Beginning. The firſt Growth is a very great Article, and the Fruit that is crowded can take this but poorly.

There will be no Difficulty in diſcovering now which are the moſt promiſing, which the leaſt ſo; and the taking off a Part of the worſt will give more Nouriſhment, at a very proper Time, to thoſe which promiſe better.

Let this thinning, however, be done with Caution: for there are many Accidents to which the Remainder are yet liable; and common Prudence will keep up a Supply againſt them.

Snails are the great Devourers of Fruit at this Time; and they muſt be watch'd daily at the Times of their coming out of their Holes, and deſtroy'd. At early Morning, and very late in the Evening they always will be found: and at any Time of the Day when there are Showers, and the Air is not too chill.

At the ſame Time that the good Fruit are freed from the Crowd of others, let the Ground about the Trees have ſuch a Dreſſing as will make them a freſh Supply of Nouriſhment.

The leaſt that ſhould be done is digging up the Borders with the three-prong'd Fork to deſtroy Weeds; and where the Condition of the Tree ſhews more than this is requir'd, it will be adviſeable to ſprinkle on a Mixture of Pond Mud, Soot and Pigeons Dung.

This, with Waterings ſo often repeated as to keep the Mould always damp, and ſo diſcreetly manag'd as never to make it very wet, will be the ſure Means of giving Vigour to the Trees at a Time when it is of ſuch important Service; and will make them yield a much ſuperior Produce to what they have done of many Years if under the common Management.

While this is doing, let the Gardener obſerve the Shoots made by the Trees, for they will be the more vigorous and luxuriant by ſuch Management; and if not regulated, will ſoon grow into Confuſion. All fore-right Shoots muſt be diſplaced; and great Care taken to train properly ſuch as riſe in a better Direction; and in Places where they are wanted, they ſhould at this early Time be brought to the Wall, and ſecured by a looſe nailing; that they may be early accuſtom'd to the proper Form, and their Juices accuſtom'd to run in a fit Direction.

The Fruit will fare vaſtly the better for this Management of the Branches; for in the Luxuriance of Growth, which will be given by this Cultivation of the Trees, the young Shoots will not only be more numerous, but larger and fuller of Leaves, and the Fruit would be injur'd by too much Shade, unleſs thus remedy'd.

We have obſerved before, that the ripening of Fruit depends upon the Influence of the Sun, and the Flavour of it to the free Paſſage of the Air: 'tis for want of this forced Fruits are poor; and whatever in any Degree prevents the Acceſs of either, ſo far hurts the Produce: Leaves are neceſſary to keep off the too free Viſitation of the Sun Beams, which would elſe exhauſt the Fruit, and make it wither, when it ſhould ſwell for ripening; but numerous Boughs are too full a Shade, and the Extream on this Side is as bad as the other.

The Gardener ought to make himſelf perfectly acquainted with the Reaſons of all his directed Practice, for there will be little good in his following Rules mechanically: when he underſtands the Purpoſe and Reaſons of what we propoſe, he will ſee not only the Convenience and Advantage, but the Neceſſity of the Compliance: and will know how to perform the Work regularly, and in due Proportion.

The Care of the young Shoots which are preſerved is far from an Impoſition of needleſs Trouble upon him; for every Minutes Work he beſtows at this Time, whether in regulating theſe, or reducing others, will ſave that of many in the ſucceeding Seaſons.

The Perfection of Wall-Fruit is one very conſiderable Article of his Praiſe, and he will thus as far as poſſible enſure it: he will remove every Annoyance; and promote every Thing that can be ſerviceable to its ripening.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THE Spring Crops are in a great Meaſure ſecured, but our Gardener is to look forward to every Period of Time; and to prepare for new Produce, or a Continuation of the old in its Excellence at all Seaſons.

The three great Articles, Beans, Peaſe, and French Beans may yet be planted; and it will be always adviſeable to put ſome of each Kind now into the Ground. They will require more Waterings than thoſe planted earlier; but with this Care, careful Weedings, and often breaking the Mould between them, they will come in for Uſe at a very agreeable Time, and will be good in their Kinds.

The Gardener will remember on this Occaſion what we have told him of digging between growing Plants; that it not only ſupplies Nouriſhment in a very happy Manner, but makes the Crop better than any Way elſe able to bear dry Seaſons. Such are to be now expected, and there is all the Reaſon imaginable to prefer this to any other Method in the preſent late Plantation.

Weeding and Watering are eſſential now, and muſt be continued from time to time with Care over the whole Ground. The young Crops will require moſt of the former Attention, and the older of the latter; but neither muſt be neglected in regard of one or of the other.

If Weeds be ſuffered to grow up among the young Plants, they will ſtarve and deſtroy them. They will always out-grow the Plantation, becauſe they are the natural Produce of the Ground. In the larger and more eſtabliſh'd Crops they will do leſs Harm, but ſtill a great deal: if they cannot deſtroy they will impoveriſh them; and dry Weather joining its Force, the Crop will come to little. The Bloſſoms which by this Time are ready to appear, will fall off without Fruit.

If the Ground have been manag'd as we directed, the Crop of Weeds, tho' plentiful, will be but young: they will be beſt pulled up by Hand, and this at the ſame Time looſens the Mould about the Roots of the Crop, ſo that a Watering coming upon that, the whole Buſineſs is done at once. The Plants will be ſet on growing with ſuch Force, that they will for the future ſtarve thoſe Weeds as the Chance of Winds ſhall ſow among them.

Once every Week now, and for ſome ſucceeding Time, let the Gardener ſow young Sallad Herbs. The Produce will be very agreeable by way of Variety, even when the beſt of the larger Kinds are come in; and the Repetition of theſe frequent Sowings will keep them always in good order: for as they riſe quick at theſe Seaſons, they alſo quickly run up too rank for Uſe.

It will be time now to plant out the Cabbage and Savoys for Winter Service; and this may with due Care be done upon Parts of the Ground cleared from other Crops.

The Radiſhes of ſeveral early Sowings will be now paſt Service. Let them be pulled up: let the careful Gardener ſcatter over the Ground an Inch depth of a Mixture of old Dung from a Melon Bed, and Pond Mud, with a little Soot.

This being laid all of a Thickneſs muſt be dug in, and the Mould thrown up for a Week in Ridges. Then let it be levelled, and the Cabbage and Savoy Plants ſet in Rows at ſuch Diſtance, that a Spade can be brought in between them in the Summer Months. All Weeds muſt be kept out, and from time to time the Mould muſt be drawn up about their Stems in good Weather. This will ſtrengthen them greatly, but Care muſt be taken in the doing it not to bury the Heart, or let any Mould get in among the Leaves.

The Cucumber and Melon Plants under Frames muſt be now carefully attended. They are apt to hang their Leaves, and grow faint: this will happen either from the too great Power of the Sun, or the want of a ſufficient Depth of Mould.

In the firſt of theſe Caſes the Frames muſt be cover'd with Mats in the Heat of the Day inſtead of Glaſſes, and in the other an Inch depth of freſh Mould muſt be ſpread over the whole Bed.

EDEN:

A

COMPLEAT BODY of GARDENING.

* * *

NUMBER XXXVI.

For the Latter End of *MAY.*

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SECTION I.

FLORA, or *the* PLEASURE-GARDEN.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

1. The CLUSTER TULIP.

May.

Pl. 36. Fig. 1.

WE have given, in a preceding Number, a general Account of the Tulip Kind, and many elegant Varieties riſing from Culture: but their Store is not exhauſted; nor ſhall we want of this the *Fritillary*, or other Kinds, ſome elegant Flowers, that, blowing later than the uſual Time, mix almoſt Spring with Summer, and ſhew their painted Heads among thoſe of altogether different Nature.

The preſent Tulip is an Inſtance: ſingular in a very ſtriking Quality, the Number of Flowers on the ſame Stalk, and from its later than uſual Time of Blowing diſtinguiſh'd among the common Writers by a peculiar Name.

Two original Kinds, we have told the Student, furniſh all the Variety of our Floriſt's Tulips, the one diſtinguiſh'd by a drooping, the other by an erect Flower. This is of the Progeny of the latter Kind, and has ow'd to mere Luxuriance its firſt numerous Flowers, which it preſerves always when propagated by Off-ſets; but does not certainly afford from Sowing.

This is the great Diſtinction between Species and Varieties; and this ſhews the preſent Plant, with all its Singularity, to come only under the latter Aſſortment.

May.

Thoſe who wrote early on Flowers, were acquainted with this; and they have nam'd it, from the Time of its Blowing, the late Tulip, *Tulipa ſerotina*; and from this Diviſion of the Stalk for the Support of numerous Flowers, *Tulipa ramoſa*, and *Tulipa polyclonos*; Terms expreſſing in the two Languages, the branched Tulip.

CLUSIUS, who deſcribes this Kind in the common Condition of bearing a ſingle Flower, underſtands it as diſtinct in Species; and naming the cluſter'd Number, conſiders that as a Variety. The Student in LINNÆUS's Method, is to conſider it as one of the *Geſnerian* Tulips, diſtinguiſh'd by that Author, under the Name *Tulipa flore erecto foliis ovato lanceolatis.*

The Root is very large and oblong, covered with a deep brown Skin, and hung with many Fibres.

The Leaves are numerous, broad, firm, greyiſh, wav'd at the Edges, and pointed at the End. The larger lie on the Ground, but there are ſeveral of the ſame Form upon the Stalk.

This is two Foot and a half high, round, firm, pale, toward the Top divided into ſeveral Branches, and covered with a greyiſh Hoaryneſs.

The Leaves are plac'd alternate on the Stem, and at the Top of every Branch ſtands one vaſt

Flower: the Form is that of the common Tulip: the Colour a duſky red, ſometimes a deep yellow; with a violet, black, or duſky Baſe, naturally terminated on each Petal by a white Line.

The internal Parts are the ſame as in the other Tulips; and they refer it plainly to the *Hexandria Monogynia*, the Sixth Claſs in the LINNÆAN Method, and its firſt Section.

Culture of this TULIP.

It is, in the State wherein we deſcribe it, the Creature of the Gardener's Induſtry, but in its natural Condition, it abounds wild in the damp Meadows of the *Eaſt*, whence we learn, what general Cautions ſhould be held in its Culture.

It is near two hundred Years ſince the *Geſnerian* or Oriental Tulip was firſt brought into the *European* Gardens, where this Variety of it was ſoon produc'd; and where it now occaſionally makes its Appearance in the Beds of thoſe whoſe Patience raiſes their Flowers from Seed.

Whether branched or ſimple, its own Seeds rarely produce any Varieties, except in regard of that Particular: the moſt I have ſeen elſe, is, that the Seeds of the yellow will produce the red late Tulip, and thoſe of the red the yellow; as this CLUSIUS, diligent in Experiments, and faithful in his Relations of them, found long before, with the ſame Limitations.

'Tis ſtrange, but it appears alſo certain, that the Antients were unacquainted with this ſingular and elegant Flower. That the *Greeks*, ſtudious of Plants, and Admirers, in a high Degree, of their Beauty as well as Virtues, ſhould not know the Tulip (a Native of their own Part of the World, and ſo diſtinguiſh'd by its Form and Colour) is very ſingular; but there is not in any of their Writers an Account of it, nor a Name for it in their Language.

The Word Tulip is of *Turkiſh* Origin, and late known; we receiv'd the elegant Kinds from them in 1559; and tho' the little yellow Species with the drooping Head, is native of *Europe*, it was long overlook'd.

They gueſs idly, who ſuppoſe the Tulip the Plant celebrated to ſuch Extravagance by THEOPHRASTUS, for its invigorating Qualities, that, PLINY (who did not uſe to ſtick at little Miracles) ſtaggers at the Repetition, and records for his Authority, the elſewhere grave and accurate Manner of his Original Author.

THEOPHRASTUS gives no Deſcription: an *Indian*, he ſays, poſſeſs'd that Plant, and taught them its Effects: it was the *Ginſeng* probably of modern Times, Native of a Part of the *Indies* with which they had Intercourſe, and now celebrated for like, tho' not equal Virtues.

2. ZUMBUL HYACINTH.

Pl. 36. Fig. 2.

This is a very elegant and valuable Plant: long known in our Gardens, and worthy to be continued there with all kind of Attention. The Authors in general who have written of Flowers have mention'd it, and all under the ſame Name, *Hyacinth*, but with various Additions from its Place of Growth or Accidental Marks, *Oriental Hyacinth*, and *Hyacinth of Conſtantinople*, *Indian Hyacinth*, and *Zumbul Indi:* others have call'd it *ſpotted Hyacinth:* the Stalk and Leaves in the lower Part being frequently ſtain'd and ſpotted in an elegant tho' irregular Manner.

LINNÆUS, who adopts Names from more laſting Characters, calls it *Hyacinthus corollis infundibuliformibus ſemiſexifidis baſi ventricoſis:* Funnel-flower'd *Hyacinth*, with the Flowers ſwoln at the Baſe, and lightly cut at the Edge into ſix Segments.

Under this Name he comprehends all the Varieties of Oriental Hyacinths, (Species as others call them) and does not allow this, which the Gardeners hold ſo extremely diſtinct from the reſt, to be any thing more.

The Root is very large, round and white, full of Juice, and hung with many thick Fibres.

The Leaves are numerous, broad, and very conſpicuous; they reſemble thoſe of the Lilly: they are of a freſh green, wav'd at the Edges, and often curl'd or twiſted.

The Stalk is round, firm, fourteen Inches high; and upright, except that it bends toward the Top with the Weight of its numerous large Flowers.

The lower Part of it is variouſly and elegantly clouded and ſpotted with Purple; and uſually the Bottoms of the Leaves are in the ſame Manner painted like the Stalk of the great Dragons.

The Flowers are very large, and naturally of a Celeſtial Blue: they hang in great Cluſters from the Top down one third of the Length of the Stalk: ſometimes they throw themſelves all on one Side, in ſome Plants every Way.

Each has its ſhort Footſtalk. In Form they reſemble the other Hyacinths, but they are the largeſt of their Kind; and by Culture their Colour will be chang'd in many Degrees; it will grow deeper or paler: there will be a Mixture of Red in various Proportions with the Blue, which will make it Purple; and it will ſometimes be fleſhy or White. Theſe are all fine Colours, and the Flower is very elegant in all of them, but in none ſo truly fine as in its pure celeſtial Blue, its genuine and natural Colour.

The Flower is form'd of one Petal, and grows naked to its Footſtalk: it is rounded at the Baſe, cylindric and tubular in the Body, and at the Rim it turns up in ſix large and elegant Segments.

Within ſtand ſix ſhort Filaments, whoſe Buttons converge: and there is in the Centre of theſe a ſhort Style with an obtuſe Head. The ſix Filaments ſhew it one of the *Hexandria* of LINNÆUS, and its ſingle Style one of the *Monogynia*, the ſixth Claſs and its firſt Section.

Culture of this Hyacinth.

It is a Native of the *Eaſt*, and is there found bordering the Woods and Thickets, where the Mould is light and fine; as the common Blue Bell ours.

In the *Eaſt-Indies* it is uſually found in rich Soils, and where there is ſome Moiſture: in *Africa*, where it is ſcarce leſs common, it will grow in burning Sand. This makes a Difference very conſiderable and conſpicuous in the Plant. The *Aſiatic* is large, and has the Flowers of the true Celeſtial Blue: the *African* is ſmaller, the Stalks are more ſpotted, and the Flowers uſually have more or leſs of the Red with their natural Blue.

A Plant ſubject to ſo much Variation in its natural State, may well admit great Changes in our Gardens: theſe not only ſhew themſelves in the Flowers, which will be ſingle and double, as well as red, white, and blue, but in the Leaves and Seaſon of Flowering: for ſome are earlier, ſome much later.

All this depends upon the ſame original Cauſe, the Difference between the *Aſiatic* and *African* Plants; for the *African* as they are ſmaller and narrower leav'd, are alſo earlier in Flowering. We have obtain'd Seeds from both theſe Places, and the Plants rais'd from them have in ſome Degree ſhar'd the natural Qualities of their Original. From theſe we have propagated an innumerable Store, and theſe partake variouſly of theſe ſeveral Properties.

The Gardener is to learn from this Hiſtory of the Plant, two Things; that it is an excellent Subject for his Induſtry, becauſe naturally ſuſceptible of ſo much Change; and that he has his Choice to raiſe it on a dryer and more poor, or on a ſomewhat moiſter and more rich Soil.

The Compoſt I have found to ſucceed with it beſt, and from which not only the fineſt Flowers, but the greateſt Variety of them have been produced under my own Care, is of a middle Nature between the two: it is compos'd thus:

Mix equal Parts of freſh Paſture-Earth and rich Pond-Mud. To every Buſhel of this add half a Peck of Sand, and the ſame Quantity of Earth from under a Wood-Pile. Throw the Whole up in a Heap, expos'd to the Weather, and let it lie from *October* to the End of *July* following.

Then fill ſome Seed-Boxes with it, and ſow on it moderately thick the Seeds of the great blue-flower'd Kind, gather'd from robuſt Plants, that have the Stalks well ſpotted. Sift over them a Finger-Breadth of Mould, and place them where they may have the Morning Sun all Autumn.

In Winter let them have the full Noon-Sun; and in Spring let them be remov'd into their firſt Place. In very ſharp Weather let the Surface be cover'd with a little Pea-ſtraw: at all Seaſons let it be kept clear from Weeds; and from Time to Time let its Quality be examined, that it may not grow too dry.

With this Management the young Plants will appear in *February*, and their green Leaves will ſtand out a great Part of Summer.

When they are faded, half an Inch of freſh Earth muſt be ſifted over the Surface, and it muſt be kept clear from Weeds as at firſt.

A large Parcel of Compoſt ſhould be now made as the firſt, and the *Auguſt* following a Bed ſhould be prepar'd with it, and the Roots ſeparated from the Mould in the Boxes, and planted in it.

They will flower the fourth or fifth Year from Sowing; and the Gardener will find his Trouble and his Patience very well rewarded, by their Number, Variety, and Excellence.

This is the Way to raiſe them in Plenty, Variety and Beauty. The Method of preſerving and managing the Roots, when full grown, we have declar'd already. The common Practice is to propagate and encreaſe the Flowers from Off-ſets produc'd by the old Roots: this is a certain Way of preſerving the ſame Flower; but the true Spirit of Gardening is not content with that: neither will theſe Off-ſets for ever preſerve the Luſtre of the original Plant.

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3. GOLDEN AMARYLLIS.

Pl. 36. Fig. 3. Our Student knows that *Amaryllis* is a Name of modern Origin, as apply'd to a Genus of Plants. We have made him acquainted with ſeveral of the Species, all elegant; and for the moſt Part deſcrib'd under very various Names, by thoſe who wrote before the Time of the modern Improvements of the Science.

Linnæus firſt brought the Plants of this Genus together: he found them ally'd by Nature, tho' disjoin'd by unfiniſh'd Art; and having ſeparated them from all others, he diſtinguiſh'd them by this perhaps fantaſtic but certainly appropriated Name. Moſt of the others had been call'd *Narciſſus*; and this by ſome has been diſtinguiſh'd by the ſame Generical Name; by others it has been rank'd among the *Colchicums*.

C. Bauhine calls it yellow *Colchicum*: Clusius has been follow'd by moſt in naming it a *Narciſſus*, adding the Term *Autumnalis*, to denote the Time of its Flowering; tho' this has no Certainty, for the Flower is now perfect in ſome Gardens, and is often much earlier as well as much later.

Linnæus, who forms his Names from real Characters, calls it *Amaryllis ſpatha uniflora corolla equali ſtaminibus declinatis*: Single-flower'd *Amaryllis*, with the Flower upright, and the Threads ſtooping.

The Root is large, roundiſh, black on the Outſide, white within, juicy, and hung with many Fibres.

The Leaves are long and moderately broad, May. wav'd at the Edges, pointed at the End, and of a deep blackiſh green.

The Stalk is firm, round, and of a pale green. It riſes in the Midſt of the Leaves, and is but an Inch or two in Height.

On its Top ſtands a ſingle Flower, large, of a golden Yellow, and very beautiful. It burſts from an oblong Scabbard, and is upright, hollow, and regularly ſhap'd.

The Petals are ſix: broadeſt in the Middle, ſharp-pointed, and ſmall at the Baſe. Within ſtand ſix Filaments, crown'd with oblong Buttons, and in the Midſt of them a Style, with a three-parted Head.

The Claſs and Place of the Plant in the LINNÆAN Syſtem are learn'd from this: it is, as the former, one of the Sixth Claſs, the *Hexandria*, and of its firſt Section.

The Seed-veſſel which follows the Flower, is of an oval Form, and has three Valves and three Cells, with numerous Seeds.

Culture of this AMARYLLIS.

Beſide the Beauty and Singularity of this Flower, (for it has both in no mean Degree) the Eaſe of its Culture is no ſmall Recommendation: it is encreas'd eaſily by Off-ſets, tho' rais'd more ſucceſsfully by Seeds, and in either Way requires little Attention.

It is a Native of many Parts of *Europe*, eſpecially of *Spain:* it riſes there in damp Ground very abundantly, and paints the Meadows as our Crowfoot.

The Soil to be prepar'd for it ſhould reſemble this which it has naturally; and the Part of the World wherein it is wild, will inform the Gardener that it requires no Stove or Greenhouſe to bring it to Perfection.

Let him mix up a Compoſt of the following Ingredients:

A Barrow of Earth from under the Turf in a rich Meadow, a Buſhel of Pond-Mud, and a Peck of old Cow-dung. Throw theſe up in a Heap all Winter, and in Spring let them have an Addition of ſome Soot. Let them be turn'd up again to the Weather, and remain in that Manner till *Auguſt.* May.

This is a Compoſt well ſuited not only to this, but to many other of the Plants brought from the Meadows into our Gardens.

In the latter End of *Auguſt* let the Mould be dug out of a Border in a Part of the Seminary, open to the South Eaſt, and let this Compoſt be thrown in. On this, when the Surface is levell'd, let ſome Seeds of the Plant, ſav'd with Care from the earlieſt Flowers, and ſuch as have blown ſtrongeſt, be ſow'd moderately thick. Sift over them a Quarter of an Inch of the ſame Compoſt, and throw ſome Hawthorn Buſhes upon the Bed.

All the Care it will require farther, is Weeding at Times, and Watering when the Mould is too dry. The young Plants muſt be thin'd where they ſtand cloſe, and at two Years Growth they may be planted out into a Bed at four Inches Diſtance.

The Gardener, when they come to Flower, will find among them a great deal of Variety, deeper and paler Flowers, larger and ſmaller Plants, and broader and narrower Leaves. Theſe have been conſider'd by ſome as the Marks of diſtinct Species; but he will know in what Manner to conſider them, when himſelf has rais'd them all from the ſame Seed.

After this, the better Kinds are to be ſeparated, and propagated by Off-ſets. But we adviſe the Gardener on this, as all the preceding Occaſions, now and then to repeat the Article of Sowing. The Trouble is really very trifling, and the Reward is a certain Improvement.

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4. The PERSIAN LILLY.

Pl. 36. Fig. 4. We call here by the Gardener's Name, a Plant to which a very different Generical Title belongs. He will underſtand by this what Flower we mean, and we are then to tell him it is properly a *Fritillary:* the Title muſt not ſurpriſe him, the *Crown Imperial* belongs to the ſame Claſs. He may be indulg'd in calling both theſe by thoſe long accuſtom'd Names, but 'tis fit he know that their Flowers ſhew them truly of the *Fritillary* Kind.

This is a very ſingular and elegant Species, conſpicuous for the Number and Diſpoſition of the Flowers, more than for their ſingle Elegance; but, on the whole, extremely worth the Care beſtow'd upon it in our Gardens.

We obtain'd it from *Suſa*, about a hundred and eighty Years ſince; and thoſe who firſt receiv'd it call'd it thence the *Suſian*, or, in a more extenſive Phraſe, the *Perſian Lilly.*

We have ſeen the Word Lilly apply'd wildly, by thoſe unartful Authors on many Inſtances, and this is not the leaſt; for the Plant has not the ſlighteſt Reſemblance to that Genus

LINNÆUS plac'd it in its proper Rank. He determin'd the Genus *Fritillary* by the invariable and diſtinctive Character of the Flower, and he added this to the reſt of that Name, giving, as the Characters of the Species, *racemo nudiuſculo foliis obliquis:* Oblique-leav'd *Fritillary*, with the Flowers in an almoſt naked Cluſter.

The Root is very large, round, and compos'd of great Scales, cover'd with a thin Membrane: in Colour of a yellowiſh White, and of a diſagreeable Taſte.

The Stalk is round, firm, upright, and two Foot high, of a pale green; and from the Bot-

May.

tom to half its Height, or more, thick ſet with Leaves.

Theſe are long, narrow, ſharp-pointed, wav'd, and of a pale but not unpleaſant green.

The Flowers are numerous, and they crown the Plant in a long Spike of a pyramidal Form. All have Footſtalks; but thoſe of the lower Flowers are longeſt.

The Flowers themſelves are ſmall, they hang drooping from their Footſtalks, and their Colour is a deep Purple; paler on the Inſide than without, and with a little Greenneſs about the Baſes of the Petals.

Each Flower is compos'd of ſix, and is of a Bell-like Form: it riſes from the Footſtalk naked, and the Petals are oblong, obtuſe, and parallel in Diſpoſition. In the Baſe of each Petal there is a Hollow, in which is lodg'd a Drop of Honey-Juice. Theſe Characters refer the Plant to the *Fritillary* Kind; and the Claſs is obviouſly written in the internal Parts: theſe are ſix Filaments gather'd cloſe about a ſingle Style. From theſe it is to be adjudg'd to the *Hexandria Monogynia*, the ſixth Claſs of LINNÆUS and its firſt Section.

Culture of this FRITILLARY.

In *Perſia*, where the Plant is native, it thrives beſt in a rich Soil where there is ſome Moiſture. This muſt be our Rule for adapting a proper Compoſt; and in the Choice of a Place for it, ſo much Regard ſhould be had to its native Warmth of Climate, that it be not too much expos'd; nor muſt it be left, during Winter, quite unſhelter'd. Let the Compoſt be four Parts rich Meadow-Earth, and one Part rotted Cow-dung. Let this lie from *November* to *Auguſt* expos'd to the Air, and often turn'd; and then let it be put in the Place of ſome Mould dug out of the Seminary, in a Part of the Ground not too much expos'd to the North, nor open to the Noon-day Sun.

Let Seeds be ſav'd from a ſtrong and well growing Plant, and ſown upon this Compoſt. Let a third of an Inch of the ſame Mould be ſifted over them, and let the Bed be defended by a few Hawthorn Buſhes; and kept weeded.

The Plants will grow gradually to their Perfection; and when they are fit to be brought into the Garden, a Bed of the ſame Compoſt muſt be made for them, and they muſt be planted at a Foot Diſtance. Here they will flower in the higheſt Perfection; the beſt of them ſhould be mark'd, and afterwards propagated farther by Off-ſets.

Few are at the Trouble to raiſe this Plant from Seed; but none will have it in the greateſt Degree of Perfection by any other Method.

There is not the Temptation of new Flowers to lead Men to this Practice, for the Plant is the ſame in general, however propagated; but there is a vaſt Difference in the Strength of the Colour; and when this is in its Perfection, it does not laſt more than a certain Number of Years in the Off-ſets: they by Degrees wear out in their Luſtre of Flowering; and this careful Method of raiſing by Seeds is the only Way of keeping the Plant for a Continuance in the full Glory.

5. PROLIFEROUS SCARLET ANEMONE.

Pl. 36. Fig. 5.

We have occaſionally treated of Anemonies before, but have refer'd the full Conſideration of their Culture and Management to this Place, where treating of one of the moſt conſpicuous and ſingular Kinds, the Art of raiſing that may comprehend the whole Doctrine of the others.

The Reader has been told before, that all that Blaze of Beauty and Variety we ſee in the Anemone Kind, is the Produce of a few original Species. All that Nature has done toward it, is compris'd in narrow Limits; but the Produce of Art from a good Management of theſe, is innumerable; and the new Productions are endleſs.

From the broad-leav'd and narrow-leav'd Anemone proceed all our elegant Flowers. This of which we treat here is of the latter Kind, and owes its redundant Beauty to repeated Operations of the Gardener.

The Seeds of a ſingle Anemone of this Kind produce a ſemi-double: Seeds from that Flower afford a perfect double Anemone; and good Management and good Fortune combining, produce from the Seeds of the laſt, the proliferous Flower here mention'd; double in the moſt perfect Manner, and ſending up from its Centre another Flower, no way inferior to itſelf in Bigneſs, Colouring, or Multiplicity of Petals.

This Effect of exuberant Nature we have explain'd on the Occaſion of the Ranunculus in two Kinds; but in both thoſe the ſecond Flower is ſmaller than the Original: 'tis peculiar to this Anemone to have it equal.

So conſpicuous a Variety could not eſcape the Notice of thoſe who firſt treated of Flowers after its Production. They have nam'd it with Wonder, and dwelt on its Deſcription with a kind of Tranſport.

They have call'd it *Anemone prolifera*; *Anemone flore ſuave rubente prolifera*; and, in the *Engliſh*, *Childing Anemone*, and *Proliferous Anemone*.

LINNÆUS, refering it to the original Species, allows it, in this peculiar State, no ſeparate Name: the plain Kind, to which it owes its Origin, he calls *Anemone foliis radicalibus ternato decompoſitis, involucro folioſo*: Anemone, with the Leaves from the Root ſubdivided in Three's, and a Leafy Involucrum.

The Root is oblong, thick, tuberous, and irregularly

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regularly divided into Heads; of a brown Colour, hung with many Fibres, and of an acrid and diſagreeable Taſte.

The Leaves are ſupported on long Footſtalks, and are large, of a deep green, divided and ſubdivided, but all the Way in Three's; and the Diviſions are irregular, oblong, and pointed.

The Stalk is a Foot high, reddiſh toward the Ground, not perfectly upright, round, and a little hairy.

About its Middle ſtands a Leafy Subſtance, broad, ſhort, and divided in Three's, in the Manner of the Leaves; and at its Summit ſtands a large and elegant Flower. This, from the firſt Opening of the Petals, ſhews in its Centre the Rudiment of another, plac'd on its proper Stalk, which riſes in the Midſt of the firſt.

As the firſt Flower opens, the Footſtalk of the other riſes, and that on its Summit begins to open; and by that Time the firſt is perfectly expanded, this other is rais'd ſome Inches above it, ſpreads its Petals with the ſame Freedom, and the Flower in a Day or two more becomes perfect.

In this State the Gardener, with good Care, may keep it many Days; but, without ſuch Management, the lower Flower begins to fade as ſoon as the upper one has its full Perfection.

The Structure of each is perfectly alike, and they have the full Beauty of the Anemone Kind, when carry'd to the utmoſt Perfection. They are of the Bigneſs of a ſmall Roſe, and full of doubled Petals: theſe are oblong, narrow, pointed at the End, and plac'd in three or four diſtinct Series.

Their Colour is naturally a ſtrong and elegant Scarlet; but to this, the ſame Culture that gives the Exuberance of the proliferous Flower, ſometimes alſo adds Variegation. The Petals will be ſtain'd with a paler Red, with White, and with Green. In either Caſe, it is a Plant of conſummate Beauty.

The Characters of Claſſes are very obſcurely viſible in theſe double Flowers: to know to what Part of a Syſtem ſuch Plants belong, we have told the Student he is to trace the luxuriant Variety back to its ſimple State, and that he may find no Difficulty in that Matter, we always name what that original Plant is.

He ſees it is the common ſingle fine-leav'd Anemone, and in this the Parts of Impregnation are ſufficiently conſpicuous. The Flower riſes naked from the Stalk, and has, in this plain State, ſix Petals. They are diſpos'd in two Series, and the Centre is occupy'd by a Head, compos'd of the Rudiments of numerous Seeds, and ſurrounded with a vaſt Tuft of Threads: theſe are ſhort, and crown'd with double Buttons.

The Student tracing theſe to their Baſe, finds them inſerted not on the Petals but the Receptacle; this, with their Number, ſhews the Plant one of the *Polyandria*; and each Rudiment of the cluſter'd Head, having its pointed Style crown'd with an obtuſe Top, ſhews it one of the *Polygynia*.

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Culture of the ANEMONE.

We have ſaid that under this Head we ſhall deliver at large the Culture and Management of the fine Anemonies in general. The Seaſon is now very proper; for the Seeds muſt at this Time be ſav'd, and the Compoſt prepar'd for receiving them.

With Regard to the firſt Article, the Gardener muſt diſtinguiſh carefully the three Kinds of Anemonies, as they are characteris'd by the Condition of the Flower, the Single, the Semi-double, and the Double. With this firſt Diſtinction in his Memory, let him go over the Beds of Anemonies in full Flower, and ſelect Plants for Seed.

The Seeds of the ſingle are excellent for the Production of the common ſemi-double, and ſome double Flowers. Theſe have the full Strength of Nature, but they are not to be ſelected for the preſent Purpoſe, becauſe more Time and Re-ſowing would be requir'd. The Seeds of the double Flowers are not fit: many of them ripen none, and in thoſe which do, they are weak, and often imperfect.

This throws the Choice upon the ſemi-double Flowers, that is, on ſuch as have ſome Series of ſmall Petals within the larger, yet have not the whole Body fill'd with them, but have plain, conſpicuous, and vigorous Heads of Seeds in their Centre, ſurrounded by Threads, with fair and perfect Buttons.

From theſe Flowers perfect Seeds may be obtain'd, and they have not the firſt Change to paſs, as they muſt, if the Flower in which they were ripen'd had been abſolutely ſingle.

Among the ſemi-double Flowers which have this Character, let him ſelect ſuch as have upright, tall, and ſtrong Stalks, and have the Flower large and well colour'd.

Theſe let him mark with Sticks; tying up the Stem, to prevent the Wind from having too much Power upon it, and then ripen the Seed with all poſſible Attention.

To this Purpoſe, let him take up the Roots that are neareſt theſe; ſtrew a ſmall Parcel of ſome rich light Compoſt about the Plants, and every Evening give them a gentle Watering.

As ſoon as they are mark'd, let a Compoſt be mix'd up for the Seed of the following Ingredients:

A Barrow of rich Mould from under the Turf in a dry hilly Paſture, a Buſhel of River-Mud, three Pecks of rotted Cow-dung, and of hard large Sand, and Earth from under a Wood Pile, each a Peck and half.

Throw theſe in a Heap, and once in ten Days turn them, working them well together, to break the Clods, mix the Ingredients, and prevent the Growth of Weeds.

This will be preparing while the Seeds are ripening.

When they have acquir'd their Bigneſs, leave off watering the Plants; and as ſoon as they begin to be looſe upon the Head, cut off the Heads with a Piece of the Stalk, and lay them on a paper'd Shelf to harden.

After a Week or ten Days ſeparate the Seeds from the Head: let them lie a Week more to harden, and then paper them up for Sowing.

In the ſecond Week in *Auguſt* chuſe a Part of the Seminary that is open to the South-Eaſt, and is upon a riſing Part of the Ground. Dig out the Mould, fill up the Place with the Compoſt, and lay the Surface level.

Mix with the Seeds ſix Times their Quantity of dry Paſture-Mould, and let them be perfectly blended with it, ſo as not to lie in Cluſters together. Then ſow them with this Mould carefully upon the Bed, in a ſtill calm Evening. Sift over them a Quarter of an Inch of the ſame Compoſt, and lay upon the Bed ſome Hawthorn-Buſhes; not to cover it up cloſe, but to keep off Injuries.

Every Day, an Hour before Noon, draw a Mat over the whole Bed. The Buſhes will ſupport this, and give Air underneath. Let it be remov'd at Four in the Afternoon; and when the Weather is cloudy, let it be wholly omitted. The only Purpoſe of this Shelter, is to prevent the too powerful Effect of the Mid-day Sun at that Seaſon, which would dry up the Compoſt to abſolute Duſt, and burn the Seeds.

If no Showers fall, the Bed muſt once in ten Days be water'd; but in this there will be requir'd great Care. If it be done in a raſh Manner, half the Seeds will be waſh'd out of the Ground. A ſmall Pot with a fine Noſe muſt be us'd, and this ſo manag'd, that the Water may fall ſoftly upon the Surface, like a gentle Shower, refreſhing and moiſtening the Earth without diſturbing it.

The Buſhes are all this Time to remain upon the Ground, except it ſhould be neceſſary to remove them, to pick out any chance Weeds.

The firſt Week in *October* let them be taken away entirely, and let a Couple of Reed-Hedges be hung on Hinges, at the North and Eaſt Ends of the Bed. Theſe muſt be drawn in to defend the Ground in ſevere Weather, but at other Times left open.

In the Middle of *October* the young Plants will appear. The Bed muſt then be carefully weeded; and if they grow too cloſe in any Part, they muſt be thin'd.

Two or three Hoops muſt now be plac'd over the Bed, and a Canvas or Mat laid in Readineſs, to draw over it on Occaſion.

With theſe Defences prepar'd in Time, the Plants will be kept alive thro' the Winter. The Bed muſt be now continually weeded, that not the leaſt Shoot of any thing be ſeen upon it but the Plants.

If gentle Showers fall, they muſt be admitted freely to the Ground: if it be a Seaſon of Drought, their Place muſt be ſupply'd by Waterings; but when heavy Rains fall, the Canvas or Mat muſt be drawn over the Hoops, to ſhelter the young Plants from them.

This is neceſſary on two Occaſions, for theſe haſty Showers which fall with Violence, will often waſh away the Mould from the tender Roots, to their certain Deſtruction; and often ſo much Wet will ſettle on the Bed, as lying about the tendereſt will rot them; or the firſt Froſts of Winter following them, will have the more Effect upon the Mould from its Wetneſs, and will harden it in Clods, with Cracks between, which will admit the cold Air to their Deſtruction.

This is the Care needful in Regard of Rains. In froſty Weather the Mat or Canvas muſt be drawn over the Hoops every Evening, and remov'd every Morning; or, when very ſevere, kept on all Day: and againſt the cold and nipping Winds of early Spring, the Reed Fence is to be turn'd upon its Hinge, according to the Quarters from whence they blow.

Thus will the Plants be preſerv'd in Vigour thro' the Winter. In Spring they muſt be kept carefully weeded, and as the Summer advances, ſometimes gently water'd.

In *June* the Leaves will decay.

Let the Roots then be carefully taken up.

Let the Compoſt be dug out, and a freſh Quantity prepar'd for the Purpoſe be put in, and let the Bed be enlarg'd, ſo that it may hold the Roots at due Diſtance.

Let the Surface be levell'd, and Lines drawn a-croſs and lengthways, at four Inches aſunder; and in the Centre of each Square place one Root, with the Bud upwards. Sift over theſe half an Inch of Mould, and manage them in Reſpect of Weeding and Watering as at firſt, placing the Reed Fence to the Southward, to ſhade the Ground from the full Sun.

The third Week in *October* give the Bed a very careful and perfect Weeding: then ſift on half an Inch more of the Compoſt, and defend it as the former Winter.

Early in Spring the young Plants will appear very vigorous and ſtrong, and a great many of them will flower.

The Gardener is not to judge of their Value from theſe their early and maiden Flowers: they will often promiſe a great deal, but the Perfection is in ſucceeding Seaſons.

This Spring let a larger Quantity of Compoſt be prepar'd, and let the Plants now be well attended.

When the Leaves are decay'd, let them be taken carefully out of the Ground, clean them from the Mould that hangs about them, pick away the decay'd Stalks, and then ſpread them upon a Mat in an airy Room, where the Sun does not ſhine in.

When they have lain here long enough to harden, pick off any Mould that might be left about them at firſt: tye them up in ſmall Bags, not too many together, for Fear of their gathering Damp, and hang them up out of the Way of Accidents, or Vermin.

The laſt Week in *Auguſt* chuſe a Place in the Flower-Garden for planting them. Let it be open to the South-Eaſt, and defended from the full Eaſt and North. Mark out a Space ſufficient for the Roots, and dig away the Mould three Quarters of a Spade deep. Pring in the Compoſt prepar'd for this Purpoſe of the ſame Ingredients, and in the ſame Manner as the firſt.

Throw it into the Place, and lay it twelve Inches thick, levelling the Surface.

Thus let it lie ten Days, then break it lightly with a Spade, half Spade Depth, and rake it even. Draw away all Clods and Stones, and on the clean Bed draw Lines lengthway and a-croſs, ſix Inches diſtant.

Take the Roots out of their Bags, and place one of them carefully in the Middle of each Square. Sift on more of the Compoſt, and cover them two Inches and a half. Care muſt be taken that the Bud of the Root lie uppermoſt; and the Surface of the Bed muſt be now finiſh'd with a fine Rake, laying it a little rounding, to throw off the Water.

If no Showers fall within a Week after the Planting, let the whole be gently and regularly water'd.

Some Hoops muſt be planted over the Bed; and in the Severity of Winter there muſt be a Mat or Canvas drawn over theſe, either at Night only, or, if it be very ſharp, all Day, opening them only once in two Days at Noon, to give them ſome free Air.

In Spring the Bed muſt be weeded; and when the Flower-Buds appear, great Care muſt be taken to defend them from ſharp Winds, by drawing on the Mats, or by Reed-Hedges planted againſt the cold Quarter.

In *April* they will flower.

We do not promiſe the Gardener of a Certainty that he will have this elegant proliferous Kind from the firſt Sowing; but whether he have or not, his Labour will be well rewarded: he will have ſome ſingle Flowers, which muſt be remov'd; many ſemi-double, and perfectly double; and whatever were the Colours of the Flowers from which he ſav'd the Seeds, he will have among theſe Plants rais'd from them, Red, Blue, and White; ſimple, and in all poſſible Combinations. From the Red and the Blue, will be form'd a vaſt Variety of Purples; from the Red and White, all the Tinges of Fleſh Colour, Crimſon, and Scarlet; and there will get in among theſe ſome Green, which will have a fine Effect in their Variegations.

If the Proliferous Kind do not appear among thoſe, it may be expected from a ſecond Sowing. At all Adventures this ſhould be done every Year.

The beſt ſemi-double Kinds ſhould be mark'd, and the Seeds ſav'd with the ſame Care we before directed, and ſow'd in the ſame Manner.

Thus the Gardener will every Year have a great many new Flowers; and among them, one Time or other, will be found this bold and elegant Kind.

The Roots muſt every Year be manag'd in the following Manner:

When the Leaves are decay'd, after Flowering, they muſt be taken up, clean'd as before directed, and parted; that is, divided according to their Growth into two or more Parts: but let the Gardener remember, that if he breaks them into too ſmall Pieces, they will flower weakly. Every Part that has a Bud will grow; but the boldeſt and largeſt Pieces are thoſe which flower in Perfection.

This done, let the Roots be ty'd up when they are harden'd, and preſerv'd for Planting.

It is a Piece of good Addreſs in the Gardener to mark the Plants as they are in Flower, by Sticks of particular Shape, according to their Colours. Thus he will know what Root produces what Colour; and keeping theſe ſeparate in the Drying, he will be able to mark upon the Bags their Properties and Colours.

This will ſerve an excellent Purpoſe: in the next Autumn Planting he will be able to mix the Blues and Reds, and Violets and Purples, and Peach-blooms and Crimſons, ſo as to ſet off each other; and no two of a Colour ſhall appear together.

This will provide for an elegant Diſpoſition of the Plants: but more is to be conſidered in this Plantation. The Beauty of the Anemonies is ſo great, that the Floriſt wiſhes it permanent. In this Reſpect the ſame Methods we have directed for the preſerving Tulips in their Bloom, will be ſerviceable: for the ſame Accidents haſten the Decay of all. The better they are defended from Winds, ſtormy Showers, and full Sun, the longer they will keep in Beauty.

But, beſide this, there may be a Succeſſion provided in this Kind, by planting the Roots at different Times. There ſhould be at leaſt three Plantations of the Anemony Roots in ſo many ſeparate Beds; the firſt early in *September*, the ſecond toward the Middle of *October*, and the laſt after *Chriſtmas*.

Only indifferent Roots muſt be ſav'd for this laſt Plantation; but there will be this Way a long Continuance of the Bloom; and as one Plantation goes off, and the Leaves decay, thoſe Roots muſt be taken up; not waiting for the others.

6. BROAD-LEAV'D CLUSTER FRITILLARY.

Pl. 36. Fig. 6.

We brought the Reader in our laſt Number acquainted with many of this painted Tribe, but there are yet two or three others late in Flowering, and not for that only, but their Beauty worth his Notice. This cluſter'd Kind is one.

The Number of Flowers and their elegant Diſpoſition, never fail to pleaſe the moſt incurious Eye; and tho' the Colouring be leſs gaudy than in ſome others, yet it extreamly deſerves a nearer View, and will not fail to pleaſe the more, the more it is examin'd.

The Root is moderately large.

1
The Cluster Tulip.
2
Zumbul Hyacinth
3
Golden Amaryllis.
4
The Persian Lilly.
5
Proliferous Scarlet Anemone.
6
Broad leav'd Cluster Frutillary.

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The Stalk is firm, round, green, upright, and, according to the Soil, from ſix to ſixteen Inches in Height.

The Leaves are very numerous, they ſtand oppoſite at the Bottom; but on the upper Part of the Stalk are alternate. Theſe lower Leaves are alſo conſiderably broad, the others are narrow and ſharp-pointed, rib'd, of a pale green.

The Flowers hang from the Tops of the Stalks in various Directions, but with a wild and pleaſeing Irregularity. Together they form a roundiſh Cluſter, and they hang naturally downward, but their Stalks twiſt, and ſometimes turn a little irregularly upwards.

Their Colour is a dingy Purple mix'd with Yellow.

The Flower conſiſts of ſix Petals, as in the others: a broad Rib of duſky Yellow runs along the Middle of each Petal, and the Sides are Purple. There is little of the Chequering viſible in this Part: all that approaches to it, is, that a few Purple Spots are irregularly ſcattered over the yellow Rib.

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Within the Colours are brighter, and plac'd more regularly: the Part neareſt the Baſe is chequer'd, as in the other Kinds: the Ground Colour is Yellow, and the Chequering Purple.

This is a Variety of the *Pyrenæan Fritillary*, the *Fritillaria foliis imis oppoſitis*, of LINNÆUS. No particular Rule is needed for the Culture: it will riſe from the Seeds of that Species, manag'd as we directed in the preceding Number; and, when once obtain'd, the Stock muſt be encreas'd by parting the Root: for it does not well ripen the Seed.

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CHAP. II.

The Management of the Flower-Garden, for this Week.

WATCH where the Leaves of the bulbous and tuberous-rooted Spring Flowers are decay'd, and take up the Roots.

The early Tulips, the early Crocus's, and ſome of the firſt Anemonies, together with the Snowdrops, and others, will be now in a right Condition for it. They muſt be clean'd from Mould, and ſpread upon a Table or Mat in a ſhady Place, to harden: and then put up for the next Plantation.

Look to the Boxes of Seedling Flowers, and remove them, if that have not been done before, into ſome Place where they will only have the Morning Sun. We have given the Reaſons of this Management under the ſeveral Kinds.

In general, they are to have as much Sun as can be allow'd them during Winter, to warm the Mould, and cheriſh their young Roots; and in Summer they muſt be ſhelter'd from its full Beams; tho' they are open to thoſe of the Morning: for if they were expos'd at Noon they wou'd be parch'd up. As the Weather grows hot, this Care is to be taken to remove them, ſo that no particular Day can be fix'd; but uſually it is full Time to do it by this Week.

As the Carnations grow toward Flowering, the Earth muſt be kept moiſten'd; and Inſects pick'd off, if at any Time found about the Plants.

The Auriculas, as they grow paſt Flowering, muſt be remov'd from the Stands, and plac'd in ſome Part of the Ground where they can have only the Morning Sun. After this, Care is to be taken that no Moſs or Weeds grow upon the Mould; and thus they are to be left for Summer.

Let the Gardener look over his Borders, and ſee where any thing can be added for the Autumn Flowering: there are ſeveral Plants he may yet bring in. The ſweet Scabious, Oxeye, Chryſanthemum, and many others, will be now fit to remove; but let the Gardener take a good Opportunity of doing it: let him chuſe the Evening of a ſhowery Day, and ſhade the Plants afterwards at Noon, till they are well rooted.

This Care being taken of the particular Kinds, let him clean and lay in Order every Part of the Ground. Not only the Flower-Beds muſt be kept free from Weeds, but none ſhould be ſuffer'd to remain any where about the Garden. It is the Time when they will be running to Seed; and one Plant now left will be the Parent of a thouſand.

Let the Graſs-Walks be mow'd frequently, for they ſoon run up into Wildneſs, if neglected at this Seaſon; and let the Gravel be kept roll'd, and clean'd, that every thing may be in Order for Service.

SECTION II.

The Management of the SEMINARY, *for this Week.*

LOOK to the Biennial and Perennial Flower-Roots, rais'd from Seed the laſt Seaſon; and now, according to our Direction, tranſplanted into ſeparate Beds. If the Weather be not ſhowery, they will now require frequent Waterings. After they are thus ſet in for a free Growth, all that will be requir'd is to keep the Ground clear from Weeds between them; and they will ſtrengthen themſelves for Flowering.

This Week is the beſt Time in the whole Year for propagating the Scarlet *Lychnis's* by Cuttings. The double Kind is no Way ſo well rais'd as this, and the young Flower-ſtalks are the proper Part to uſe.

Let a ſhady Piece of the Ground be choſen; the Mould very well dug up; and theſe Cuttings planted with Care. Every other Day let them have a gentle Watering, and they will grow very freely.

Many of the *Lychnis's*, and other Perennial Flowering Plants, ſucceed very well this Way, and not only ſave a great deal of Trouble, but afford ſtouter Stalks.

Look with Care over the Trees that were budded the laſt Seaſon: the great Point is, that the Shoot be not defrauded of Nouriſhment, nor left in the Way of Miſchief from Inſects. In the firſt Article, the Whole depends upon ſuffering no Shoots from the Stock: theſe muſt be rub'd off as ſoon as they appear, and by that Means the Nouriſhment will all get to the Bud.

We have obſerv'd, that wherever there is Weakneſs in the Tree, Inſects are apt to come: in theſe Caſes, the Bud frequently is but moderately ſupply'd with Nouriſhment; and, in Conſequence, there will be Danger of this Miſchief. The firſt Notice of it will be by the Leaves beginning to curl up. As ſoon as this is ſeen, let thoſe which are worſt be pick'd off, and the reſt muſt be waſh'd every Evening with ſome Water in which there has been ſteep'd Wood-Soot and Tobacco-Stalks. I have ſeen many Buds that were in a very declining Way, perfectly reſtor'd by this Management.

Next look to the Beds of Seedling Trees and Shrubs: they muſt be water'd at Times, and carefully ſhaded from the full Noon-day Sun. The drying Winds will alſo prove injurious to them, unleſs they be carefully defended by a Reed-Hedge.

All this Time the Mould ſhould be kept perfectly free from Weeds between them, and now and then broke carefully with a Trowel.

No Part of the Gardener's Ground requires Moiſture ſo much as the Nurſery. Let him examine from Time to Time the Condition of the Mould about the new-planted as well as Seedling Trees and Shrubs; and wherever he finds Nature has not given Moiſture enough, let him ſupply it by Labour. Waterings in large Grounds are very fatiguing, but the Choice is to do this properly, or to loſe all the Profit of former Care and Pains.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THIS Week let the Gardener repeat his Care of thinning his Fruit upon the Trees. He will by this Time ſee which of thoſe he left before likely to ripen beſt, and he ſhould now diſplace the others.

In this Thinning there muſt be no where two left together. One good one is preferable to two are indifferent; and it is certain thoſe which grow cloſe hurt one another.

No Matter whether the Quantity upon the Tree be ſmall or large: if there be ever ſo few, let not thoſe which ſtand thus, be preſerv'd for that Reaſon. The right Practice is to be content with the few that will ripen well, and wait a better Produce next Seaſon. This is the Rule in unfavourable Seaſons; but when the Quantity is large, this Thinning is ſo much the more neceſſary. Not only the preſent Crop is to be conſidered, but the good Condition of the Tree for ſucceeding Years. Often a favourable Spring will ſet more Fruit than it is poſſible for the Root to feed. Theſe Things are naturally liable to Accidents; and more Bloom is allow'd by Nature than is expected for that Reaſon.

When no Accident happens to prevent a conſiderable Part from Setting, the Hand of the Gardener muſt ſupply the Place, by taking off the ſuperabundant Number. If this be omitted, the

Fruit will be poor that Year, and thin the next; becauſe the Tree will have been too much exhauſted to furniſh then even a healthy Bloom.

Some who think themſelves careful Obſervers, remark that the bearing of Fruit-Trees is in alternate Years; that there is one full Year, and one ſcanty. The Reaſon is, that when the Trees are crowded with Fruit they will not properly thin them; conſequently the Tree is exhauſted that Year, and is not able to produce a large Crop the next: they ſuppoſe what is their own Neglect to be the Courſe of Nature; and even in the favourable Year the Fruit is worth little.

In thinning of Fruits the firſt Thing to be conſidered is their Size: no Man would be ſo idle as to count the Number of Peaches, for Inſtance, that ſhould be left to ripen, without Conſideration of the Kind. The Nutmeg and the Newington are both Peaches, but the ſame Vigour of Root, the ſame Expanſe of Tree, and ſame Quantity of Nouriſhment, will ripen twenty of the Nutmeg Kind that will be needed for ten of the others.

Next to this Article of Size in the Fruit, the Length of the Bearers on which they are plac'd ſhould be conſider'd, and after this, the Condition of the Horizontals, from which thoſe Bearers grow: laſtly, the Quantity of Fruit there is in the whole upon the Bearers that proceed from one Horizontal: and ſo of the reſt.

This is a Method of going regularly to work, and this the Gardener ought exactly and carefully to practiſe in his laſt Thinning of the Fruit.

We ſhall bring this to Practice by an Inſtance: Suppoſe a ſtrong and healthy Tree, and imagine it prun'd and dreſs'd in a proper Manner. Upon a Horizontal of a Yard long there will be in this Caſe, we will ſay ſix Branches: theſe being underſtood to be of the common Length, will produce a great Number of Bloſſoms; and the avaritious Gardener may, if theſe ſet for Fruit ripen, as he will call it, have a great many Fruit upon them: but they will be ill-flavour'd. If he would know what Quantity will come to Perfection, let him learn from our Experience, till he have confirm'd it by Trials of his own.

In the firſt Thinning he will have taken off all that grew evidently cloſe, and he is now to conſider, 1. How many to leave on for Ripening; and, 2. Which theſe ſhall be.

Upon this Horizontal, of a Yard in Length, with its ſix bearing Branches, there may be left of the common middle-ſiz'd Peaches about fifteen. This will leave three Peaches on each of the three ſtronger, and two on each of the three weaker of the Bearers.

The careful Gardener will commonly be able to ſee this Difference of ſtronger and weaker Bearers in the common Run of Trees: but if there be no ſuch Difference, let him leave the Fruit at the ſame Rate alternately, two on one Bearer, and three on another. Before he takes off the reſt, let him ſingle out theſe he is to leave, ſelecting the moſt promiſing Fruit, and thoſe which ſtand beſt.

This then is to be the general Rule: fifteen Peaches or Nectarines on ſix Bearers, upon a Horizontal of a Yard, ſuppoſing the Fruit of the middling Kind as to Size: and theſe will ripen perfectly: they will have the true high Flavour of their Kind; and the Tree will every Year, with due Management, excepting for uncommon Accidents, produce and ripen the ſame Number.

How much this is better than to have one Year a Load of indifferent Fruit, and another none, let any one judge.

With Regard to the Peaches of other Sizes and Kinds, the Rule is eaſy: in Proportion as they are larger, fewer muſt be left upon the Tree; and, as they are ſmaller, more.

The Difference between the middle Size of Peaches and the largeſt is not very great, therefore of theſe the Gardener may leave twelve upon the ſix Bearers, that is, two on each; but, on the other Hand, the Difference is very great between the common or middling Size of Peaches and the little ones, as the Nutmeg Kinds. Theſe not only require leſs Room, and leſs Nouriſhment, from their ſmall Size, but they are ſooner ripe and gather'd, and therefore they leſs exhauſt the Tree.

Of this Kind, five will in the common Condition of Trees ripen very well upon every Bearer; that is, there may be thirty Peaches left upon the Horizontal of a Yard in Length. If the Tree be remarkably ſtrong, there may be alternately five and ſix, or ſix upon each Bearer left to ripen; and by the ſame Rule, if the Tree be weaker, there ſhould be only four and five alternately, or only four upon each.

The Proprietor of a Garden will ſee by this Account, how very deficient the common Practice is upon this Head.

Thin your Wall-Fruit this Month, ſays their Director; and they do it their own Way: that is, they leave on twice or three Times as many as the Tree can ripen: hence one half periſhes, and the reſt is watery and ill-flavour'd. This I have found by long Experience, that when Fruit ſtands too thick, the Sun Beams which would otherwiſe give them the true Flavour, only render them flabby: they begin to decay before they are ripe; and the beſt of them eat like Fallings.

Let the Gardener obſerve that we have directed this Thinning to be done at twice, or oftener; and that a Week, ten Days, or a Fortnight, according to the Strength of the Tree, paſs between theſe ſeveral Operations.

The Reaſon is plain: if the full Number that ſet in a favourable Seaſon, were left to take their firſt Growth together, they would all take that firſt Growth amiſs; for one would ſtarve another: and, on the contrary, if the whole Number to be taken off, were pull'd away at once, the Number left on the Tree would be ſoon reduced to much leſs than it need, by the accidental falling of the others.

I never ſaw that more than two-thirds of thoſe left on after a common Thinning, come to their Growth: tho' the two-thirds in that Way is always much too large a Number. Accidents from Nature will deſtroy ſome, and Accidents in the Thinning will occaſion others to fall off afterwards, tho' they do not ſhew it at firſt.

Therefore let the firſt Thinning be perform'd with Care, not to ſlack the Growth or diſturb the others; and let theſe ſtand, according to the Seaſon, eight, ten, or fourteen Days; to ſhew not only which of them are beſt and moſt promiſing, but whether any have got Damage, in pulling away the others.

The different Time we adviſe them to ſtand between the firſt and ſecond Thinning, is on Account of the different Seaſons. In a very favourable Year a Week is ſufficient; in an unfavourable one they muſt ſtand the longeſt Time we have allow'd.

The Reaſon is this: There will be more Hazard of ſome of them failing in an unfavourable Year: in a more favourable it will be ſooner ſeen which are fitteſt to be left for Ripening; and they will require to be thin'd the ſooner, becauſe all the Nouriſhment thoſe take in which are to come off, is to the Loſs of thoſe which are to ſtand.

Let thoſe which are to come off be taken away, without touching the others, or even ſhaking the Branch. This is eaſily done by a ſlight Twiſt; and thoſe which are to ſtand being carefully choſen, the Gardener may now promiſe himſelf ſo many perfect Fruit.

As to the Choice of theſe, the beſt to leave upon the Tree are thoſe which are beſt ſhap'd, faireſt, and have moſt Leaves about them.

Thoſe which have a good Cluſter of Leaves, or a fair Shoot at the ſame Joint where they grow, always ripen the moſt favourably. If the Leaves be too many, they are eaſily thin'd afterwards, at the Gardener's Diſcretion: but thoſe Fruit which grow at the Joints where good Cluſters of them are, not only thrive beſt becauſe they are ſhaded, but becauſe there is much more Juice drawn thither than when the Fruit ſtands naked.

The Number being thus fix'd upon, the Manner of Thinning is to be conſider'd. The common Method is by nipping off the Fruit with the Thumb and a Finger; but this is very clumſy. There are ſome who uſe Sciſſars; and when they are of a proper Kind, that is, long and ſlender in the Blade, this anſwers very well.

I have ſome Years us'd a kind of Sciſſars made purpoſely for this Service; but what I have found beſt of all is a common Penknife, with a long narrow Blade, very ſharp at the End; this with a little Twiſt brings off the Fruit, without diſturbing any of the reſt.

Let no Conſideration induce the Gardener to leave two Fruit ſo near, as that when full-grown they will touch one another. They often throw each other off; and if this does not happen, they rob each other; and the Parts where they touch are always ill-taſted.

We have been the more expreſs on this Head, becauſe there is no Part of the Gardener's Buſineſs ſo ill practis'd.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THE Buſineſs of the preceding Weeks, diſpatch'd as we have directed, leave but little to be done in the preſent.

There is not an Article more precarious than the ſowing of Cauliflower Seed: ſome have pretended to fix a Day for it, but that is too exact: from the firſt to the laſt Day of the preſent Week will be a certain Period; for it ought not to be done ſooner than the one, or later than the other: but which particular Day, will depend upon the Weather, and the Temper of the Ground.

Let the Gardener ſuit the particular Day, according to the Dampneſs or Dryneſs of the Mould, and the dry or ſhowery Seaſon.

Let all the Heaps of Dung be broke and turn'd over this Week. They will be covered with annual Weeds at this Time: if theſe were ſuffered to ſtand longer, they would ripen and ſhed their Seeds; but as they will now be deſtroy'd at their full Bigneſs before that Miſchief, they will rot in the Heap, and aſſiſt the Dung, by bringing on a new gentle Fermentation.

If the Weather be ſhowery, or there be a Proſpect of Rain, ſow Turnep Seed.

Let the Ground be very well broke and prepar'd for this; and as the Succeſs depends entirely upon due Watering, if the Clouds refuſe that, the Hand muſt do it; and there muſt be a frequent Repetition, with moderate Quantities at a Time.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XXXVII.

For the End of *May*, and Beginning of *June*.

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

1. DOUBLE PEACH BLOOM ANEMONE.

May.

Pl. 37. Fig. 1.

THE Gardener will recollect that we have advis'd him to plant ſome Anemone Roots late in the Seaſon. Theſe will accordingly come after the others into Flower; nor is this Kind the laſt of them. He knows ſome Roots bear this late Planting better than others, and we take the preſent Opportunity of ſhewing him this is one.

It is an elegant and beautiful Flower; diſtinguiſh'd from the common Crimſon Kind by the Fulneſs of the inner Tuft, and Shortneſs of the outer Petals; and to the moſt unacquainted Eye obviouſly by the Colour.

It is one of the many Varieties we owe to Culture from the common fine-leav'd Anemone Stock; and 'tis to that Plant in its plain State, the Student muſt refer for its Characters.

It is the Species call'd by CAMERARIUS, ſimply, Anemone: by the BAUHINES, and the Generality of Writers their Followers, *Anemone tenuifolia ſimplici flore*; and *tenuifolia multiplex rubra*: the fine-leav'd ſingle, and the fine-leav'd double Anemone.

LINNÆUS and VAN ROYEN at one Time call'd it a *Pulſatilla*; but in the laſt Works of the Author of the *New Syſtem*, it is again nam'd Anemone; for he no longer ſeparates that and the *Pulſatilla* as two Genera. He adds, as its Diſtinction, *foliis radicalibus ternato-decompoſitis, involucro folioſo*: Anemone, with the radical Leaves ſubdivided in Three's, and a leafy Involucrum.

May.

The Student muſt not think this Name too long; the Number of Species under a Genus always induces a Neceſſity of particular Diſtinctions; and LINNÆUS, who has ſhorten'd the Detail in this, by cutting off the Varieties of Flower, which earlier Writers had conſider'd as Species; has yet encreas'd the Liſt greatly, by compriſing under the Name Anemone, many before ſuppos'd diſtinct Genera. Theſe are, beſide the *Pulſatilla* before named, the *Hepatica*, and a great many Plants uſually refer'd to the Ranunculus Kind.

The Root of this is tuberous, brown, and irregularly ſpreading.

The firſt Leaves are of a pale green, divided and ſubdivided into Three's.

The Stalk is alſo of a pale green, ting'd with brown, and cover'd with a light ſilky Hairyneſs. It is round, a Foot high, and uſually wav'd or bent ſeveral Ways.

About the Middle, or a little higher than that, ſtands what LINNÆUS calls the Involucrum of the Flower: by this Term he expreſſes a Kind of Cup, placed at a Diſtance below the Flower.

The Word was firſt us'd in Deſcriptions of the umbelliferous Kinds, in which there ſtands often at the Baſe of the ſeveral main Footſtalks a leafy Appendage, and another at the Bottom of each Subdiviſion. Theſe Appendages, as they in ſome Degree ſtood in the Place of Cups, yet could not properly be call'd by that Name LINNÆUS term'd Involucra; and the ſame Name he has extended to this leafy Appendage of the Anemones.

There grows no other Leaf upon the Stalk.

This has a Swelling where it riſes, and more or leſs perfectly ſurrounds the Stalk. It is naturally divided in the ternate Manner, or by Three's, in larger and ſmaller Parts; and always the Diviſion is into Three's, at the Ends of the larger Segments. The Body is of the ſame pale green with the Leaves, but often at the Edges ting'd with brown.

On the Summit of the Stalk is plac'd one Flower, naked (for this remote Involucrum is all its Cup) elegantly form'd, and much more elegantly colour'd. It conſiſts of a Range of outer Petals, broad and expanded; and a globular Tuft in the Centre, compos'd of innumerable long and ſlender ones, forming themſelves into a Globe.

On the Outſide of theſe, between the round Cluſter and the Verge of broader Petals, ſtand a Multitude of ſingular Bodies; very elegant in Form and Colouring, and diſtinct from both: theſe are a kind of ſplit Buttons, ſupported on long ſlender Threads; and they are, in Reality, the Filaments and Antheræ of the natural Flower, degenerated from their original Form and Uſe, and ſerving to encreaſe the Beauty and Variety.

The Petals are ſometimes ſix, ſometimes nine, but when the Flower is moſt perfect, they are twelve. Theſe are of a delicate faint Crimſon at the Baſe, and on the Outſide are a little hairy. From the Bottom the Colour grows fainter to the Extremities, and there they are very nearly white. The Crimſon they have is faint, and is not univerſal, but laid in Lines with undetermin'd Edges, as Art diſpoſes the Colours in thoſe figur'd clouded Silks, which do ſo much Honour to the *Engliſh* Looms this Seaſon. The Out-line is undetermin'd, and the Colour loſes itſelf in a vague clouded Edge among the White of the Ground.

This is the Colouring of the outer or larger Petals. The inner Tuft is compos'd of innumerable long and narrow ones; ſmall at the Baſe, broadeſt toward the Top, and obtuſe at the End.

The Colour in theſe appears, at a little Diſtance, exactly what we expreſs by the Term Peach Bloom; a pure White, ſtain'd with a delicate and fleſhy Crimſon. When nearer view'd, the Crimſon is found diſpos'd as in the outer Petals: the Body of the Colour lies at the Baſe of each; and from this, are Lines and Streaks of a fainter Tinct: theſe run to the Extremities, and are ſo well blended with the White, that at a very ſmall Diſtance they have the Effect of a ſingle Colour.

Theſe ſmall Petals as they approach the Centre, grow yet narrower; and there perfectly occupy the Place of that Head of Rudiments of Seeds, which otherwiſe would diſtinguiſh that Part of the Flower. The little Heads and their Filaments are quite diſtinct from theſe, as from the Petals, in Number and Office. They grow to the Receptacle in a double, triple, or quadruple Series, very thick ſet; and as they are ſhorter than the inner Tuft or outer Verge of Petals, they are not ſeen in a general View of the Flower: the outer Petals muſt be pull'd back, or the inner drawn forward, in order to diſcover them; but when thus diſclos'd, they form a very ſingular and elegant Part of the Flower.

The Filaments are Crimſon, and the Buttons Purple; pale, and thin in the Middle, deeper and thicker at the Edges.

The Structure of the double Anemone has not been yet well underſtood, or theſe Parts duly regarded. We are to refer the Student, who would trace the Claſſical Characters of the Plant, to the common ſingle fine-leav'd Kind: there he will ſee the natural Diſpoſition of the Parts, and thence he will be led to underſtand what we are about to ſay here of the Conſtruction of the double Flower.

In the ſingle he will find a Cluſter of Germs or Rudiments of Seeds, each furniſh'd with its Style and Head, occupying the Centre of the Flower, and ſurrounded by numerous capillary Filaments, of about half the Length of the Petals, terminated by double upright Buttons. Theſe Filaments grow to the Receptacle; and as the numerous Rudiments of Seeds with their Styles ſhew it one of the *Polygynia*, the Number and Place of the Filaments refer it to the *Polyandria*.

In the double Flower he finds theſe numerous Crimſon Threads fix'd to the Receptacle, and terminated by erect doubled Heads, the thin and pale Part in the Centre making the Diviſion. Theſe are the vitiated and alter'd Filaments and Buttons: they now ſerve only the Office of beautifying the Flower; for as there are no Rudiments of Seeds to impregnate, they have no Farina. The numerous narrow Petals that form the globular Fulneſs of the Flower, occupy the Place of the Head or Cluſter of Rudiments.

There is in the Centre a ſmall oblong Head, the proper Receptacle of the Rudiments, and their ſucceeding Seeds; but the Luxuriance of Culture, raiſing theſe narrow Petals from that Receptacle, leaves no Room for thoſe Rudiments of Seeds. The Receptacle however has its true Form in this double State, and toward the Top is dotted, as in thoſe Plants which have ſingle Flowers.

Thus will the Philoſophical Floriſt underſtand how it is that Nature doubles Flowers. Tracing this from its ſimple Origin, he will find the Form there to be a Flower of ſix Petals, in two Series, with an oblong Receptacle cover'd with Rudiments of Seeds, and ſurrounded by numerous Filaments, with their Buttons.

Culture encreaſes the Number of the proper Petals to nine or twelve, adding one or two Series: it colours the Filaments, and their Heads with Crimſon and with Purple, and makes them firmer and more gloſſy; and in the Place of Rudiments of Seeds, it throws from the Receptacle Petals of a peculiar Form, in Series quite innumerable.

The Plant in its ſimple State is wild in the

Greek Iſlands, a ſingle but very beautiful Flower: from this the *Turkiſh* Gardeners firſt raiſed the elegant Varieties.

With us this Kind is only to be produced from Seeds of the ſingle fine leaved *Anemone*, in the Manner we directed in our laſt Number; and being ſo raiſed, it muſt be propagated by parting the Roots; for we ſee itſelf ripens no Seeds.

2. THE GUELDER ROSE.

Pl. 37. Fig. 2.

The Gardeners Surprize would have been too great if under the Figure of this well known Shrub, we had wrote the Name *Viburnum*, but he is to be told no other properly belongs to it.

It is an old Inhabitant of our Gardens, and is a Variety from luxuriant Culture, whoſe plain and ſimple Original is nothing more than the common Water Elder.

The Plant in both States has been long known, and long a Favourite in this full Beauty in our Gardens.

The Writers of late Times have all deſcribed it, but under various Names: the more common Tree of the Genus to which it belongs is ſufficiently known, but it did not occur to them that the Characters were the ſame.

Dodonæus refer'd it to the Elder; diſtinguiſhing it from its Place of Growth, by the Addition of Paluſtris.

The Bauhines, and the Generality of others call it *Sambucus aquatica*. Linnæus and many others *Opulus*; but in his lateſt Writings this Author has with Juſtice refer'd it to the *Viburnum*. He adds as the Diſtinction of the Species, *foliis lobatis, petiolis glanduloſis:* Viburnum with lobated Leaves, placed on glandulous Footſtalks.

This is its proper Name in the common wild State, in which the Cluſters of Flowers are nearly flat; in the elegant Condition to which Culture raiſes it, wherein we deſcribe it, and wherein the Cluſters are globular, he calls it *Roſe Viburnum*.

The Gardener ſees the *Engliſh* Name ſhould be alter'd, and he will do well hereafter to call it the *Globe flower'd Viburnum*.

It is an irregular Shrub of eight Foot in Height.

The Root ſpreads far, the Stem is ſlender, the Bark brown, and the Wood white and brittle.

The Leaves are large and divided into three or more Parts, nearly to the Footſtalk, which is glandulous. These Parts are called the Lobes of a divided Leaf; and hence the Leaf itſelf is nam'd lobated.

The Flowers are extreamly beautiful, but their conſpicuous Elegance is owing more to their Diſpoſition than their ſingle Form, for they are ſmall.

In the wild State, a few large, white, diſtinct Flowers edge the general Umbell, and the reſt are ſmall, cluſter'd together, and yellowiſh; opening later, and having little Beauty.

In this elegant Condition to which Culture has raiſed it in our Gardens, the Flowers are all of the large, diſtinct, white Kind; and inſtead of edging a flat Umbell, they are cluſter'd into a perfectly globular Tuft.

Each is placed in its proper Cup, which is ſmall, dented in five Places, and permanent.

The Body of the Flower is form'd of a ſingle Petal, tubular a little way at the Baſe; expanded thence in a campanulated Form, and cut into five regular obtuſe Segments, which naturally turn back at the End. In each ſtand five ſmall Filaments with rounded Buttons, and under the Receptacle is a roundiſh Rudiment; from which in the Place of a Style riſes a Gland of a pear-like Shape, with three obtuſe Heads.

The five Threads refer it to the *Pentandrous* Claſs, the fifth in the Linnæan Syſtem; and the three Heads place it in the third Section, including the *Trigynia*.

Theſe Parts are to be ſought in the wild or common State of the Plant, where every Flower is followed by a roundiſh red Berry, containing a ſingle hard Seed. The Globular or Garden Kind here figured ripens no Fruit, and the other claſſical Parts are therefore leſs diſtinct and perfect.

Culture of the Guelder Rose.

The Plant in its wild State is Native of our own Country, and almoſt every other Part of *Europe*. The *Dutch* firſt brought it from their Meadows into Gardens, and gave it the round Fullneſs of the Bunch of Flowers. From them it obtain'd the common but unartful Gardener's Name; for *Guelder Roſe* is properly written *Guelderland Roſe*.

The natural Soil ſhews what we are to attempt in Gardens where this Shrub is raiſed: a rich black Mould with ſome Moiſture is the great Secret. This is not enough regarded; and conſequently we ſeldom ſee the Flowers in their full Luſtre; and the Tuft in its proper Bigneſs.

The Gardeners alſo have found the Way to make a Merit of this Miſchief: they propagate a Variety of this Shrub with painted or variegated Leaves; and eſteem it the beſt and fineſt Kind: this has been ſtarved in order to bring it into that painted Condition originally; and ſo long as it retains the Colouring of the Leaves, it will alſo keep to thoſe ſmaller Tufts of Flowers, which were the natural firſt Attendant of it.

The Directions of Gardening Writers confeſs this; they order the Shrub to be planted in a dry and poor Soil, otherwiſe, they ſay, it will return to the original State.

Not only this double or globe tufted Kind is kept in Gardens; the other has alſo its Place; this for the Flowers, that for the Fruit; which being large and in great Tufts, is a fine Variety among other Trees.

We ſee that when either of them has by Accident been planted near a Pond, or in the Way of Damp, the Flowers are vaſtly finer.

What happens to theſe let the Gardener who ſtudies his Art according to our Rules, carefully provide; and he will always produce this and ſuch other Shrubs in their full Perfection.

Let him chuſe a Piece of the Ground near where there is Water, and digging out the Mould to ſome Depth, let him fill up the Place with fine black Meadow Earth, mix'd with a third Part of Pond Mud, and a little rotted Cow Dung.

In this plant ſome Suckers from the Root of a thriving Tree that has ſtood where there is Moiſture, and conſequently bears tolerable Tufts of Flowers.

The Suckers take Root freely; and they will require no farther Care, but covering the Ground about their Stems the firſt Winter, and gentle frequent Waterings the ſucceeding Spring.

The Time for planting theſe Suckers is in *September:* and they may be either planted out into a Nurſery for three Years, and then brought into the Garden in their full Perfection, or ſet at once in their Place. The Circumſtances of the Garden muſt determine this; but the planting the Suckers at once where they are to remain, is the ſecure Way to have handſome Shrubs.

There is a great Advantage in the Hardyneſs of this Shrub: it is able to bear any Severity of Cold: the North Winds never hurt it, and nothing is to be fear'd for it but Drought and too much Sun.

Therefore let the Gardener ſelect for it ſuch Parts of his Ground as will ſcarce ſuit with any Thing beſide: the Conſideration of a damp Bottom we have named already, and where there is this he can ſcarce fail.

Some propagate it by Layers; but this is a tedious and troubleſome Way. They require to be laid deep, and to have frequent Waterings. In a Year from the laying they may be tranſplanted for Uſe, and they will grow freely: but they are no way preferable to thoſe Suckers the Root furniſhes naturally, and which require only to be taken up and put into the Ground.

The beſt Height for this Shrub is about nine Feet: it will grow more if permitted, but a ſkilful Gardener will chuſe to give it a good full Head at this Height, and it will be cover'd at this Seaſon with Flowers.

3. GREAT DORONICUM.

Pl. 37. Fig. 3. The Gardener is not unacquainted with this Plant, which altho' it have ſomething the Aſpect of a Weed, tho' of a bold and noble one, has been now long honour'd with a Place among Flowers, and for many Reaſons deſerves it: to the Singularity of its Aſpect may be added its Virtues, and its eaſy Culture.

All the Writers on Plants have deſcrib'd it, and if we except DODONÆUS, all under the ſame Name *Doronicum*, tho' with various Additions. That Author gives it the Name *Aconite*, mixing it by that Title among a Set of Plants moſt unlike to it in all Reſpects. Our Gardeners know it by the ſingle Name *Doronicum*, or *Leopard's Bane.*

The Authors who have known other Species, add as the Diſtinction of this, Epithets from the Size of the Plant, the Form of the Leaves, and other ſuch Particulars.

Some, as it is the moſt common, call it *Doronicum vulgare*; others *Doronicum latifolium*, broad leav'd; ſome *Doronicum Maximum*; and others, *Doronicum Pardalianches*, as we, *Leopard's Bane*, from its ſuppoſed poiſonous Qualities.

DODONÆUS, who calls it *Aconite*, adds to the Confuſion by annexing this Diſtinction.

The BAUHINES ſuppoſe the Scorpion rooted Doronicum different in Species, but LINNÆUS ranks it only as a Variety. He adds as the Diſtinction of the Kind, *foliis cordatis obtuſis, radicalibus petiolatis, caulinis amplexicaulibus:* Doronicum with Heart-ſhap'd obtuſe Leaves; thoſe from the Root having Footſtalks, and the others ſurrounding the Stalk at their Baſe.

The Root is white and of a ſingular Form, divided into ſeveral Parts, and ſpreading under the Surface: the principal Diviſions are jointed, and have a kind of ſcaly Covering; from the lower Parts of theſe run down into the Earth a few Fibres.

Theſe Fancy has repreſented as the Legs, and the larger Parts as the Bodies of Scorpions; and hence the Plant has been named *Doronicum radice ſcorpii*, Scorpion rooted Doronicum.

Where the Soil is light and fine, theſe Diviſions of the Root are more numerous and ſpreading, and the Plant from the ſame Reaſon more branch'd.

It is in this State the earlier Writers have called it particularly Scorpion rooted, and the latter have ſuppoſed the more uſual Appearance of the Plant a diſtinct Species, diſtinguiſhing it by the Breadth of the Leaves without that Addition.

The Leaves which firſt riſe from the Root are ſupported on tender Footſtalks, and are large, broad, obtuſe, and of a pale but pleaſant green; high rib'd on the under Side, and cover'd with a ſlight and delicate ſilvery Down.

The Stalk is thick but tender, mark'd like the fluted Column of ſome Order, with a Number of regular Ridges, hollow'd between; of a pale green, cover'd with a light Hairyneſs, a Foot or more in Height, hollow'd, and divided into a few Branches.

The Leaves are placed ſingly at conſiderable Diſtances on this, and are of an Arrow-headed Shape. They are broadeſt at the Baſe, where they ſurround the Stalk more than half, and ſometimes entirely; and they become gradually ſmaller at the End, where they terminate obtuſely: they are waved and indented at the Edges, of a pale green, with ſilvery Hairs, and they have high whitiſh Ribs on the Under Surface.

At the Top of the Stalk and of the Branches ſtand three or four ſmaller Leaves cloſer to one another, and from the Boſom of each riſes a Stalk with two or three Buds for Flowers which open in Succeſſion. They are large, yellow, and of the radiated Kind: they have not the Aſpect of Garden Flowers, yet they are not without Beauty on a near Examination.

In the Bud the yellow Petals are laid together ſo as to form a little golden Button; over which the Segments of the Cup, which are much longer, meet in a looſe but delicate Manner, defending without hiding the Rudiment of the Flower. In a State a little more advanced toward Ripeneſs, the Petals open, and ſhew, tho' ſtill within, the broad Rudiment of the Diſk, form'd of pale yellow riſing Dots.

The Flower full open'd is an Inch and half in Diameter, form'd of a rounded riſing Diſk, crowded with innumerable Floſcules, and of a circular Series of Rays; the whole encloſed at firſt, and afterwards defended by a delicate pale green Cup. The Flower is yellow throughout, but the Diſk has ſomething of an Orange Tinct; and the Rays are perfect Gold.

The Plant is one of the *Syngeneſious* Kind, the moſt difficult to be underſtood by the Student of all the LINNÆAN Claſſes.

We have in ſome of our firſt Numbers deliver'd the Characters of that Claſs at large; and ſhall take the Opportunity of illuſtrating them farther by this Flower, in which they are extreamly diſtinct and plain.

The Stalk ſwells into a turbinated Lump for the Support of the Flower, and from the Head of this riſe thirty elegant green Leaves, forming a Cup which widens all the Way upwards, and is of more than half the Length of the Rays of the Flower when expanded.

Theſe Leaves are placed in two Series, an outer and an inner; and they are narrow, ſwelled at the Baſe, broadeſt at a little Diſtance above that Part, and they terminate in a Point like a Hair.

Let not the Student ſuppoſe it an Error that we make theſe Leaves of the Cup thirty, becauſe LINNÆUS ſays they are about twenty: 'tis not from his Writings we draw the Characters, but from Nature.

The Diſk of the Flowers is compoſed of a vaſt Multitude of tubular Floſcules, and the circular Verge of Rays exceeding by two or three the Leaves of the Cup: they are naturally thirty as the others; but more frequently two or three more.

The Floſcules in the Diſk ſtand thick and perfectly irregularly. Each is ſmall, oblong, wide toward the Top, and at the Rim cut into five pointed Segments ſpread out like the Rays of a Star.

In the Midſt appears a kind of upright Column, of a deeper yellow than the Segments: this is compoſed of the Buttons of the Flower; they are long, ſlender, and placed regularly Side by Side, ſo that their Edges join, and they form a kind of Cylinder: this is pierced by the Style; whoſe Head or Stigma riſes above the Summit of the Cylinder to receive the impregnating Powder from the Buttons, and is nip'd at the Top.

Each of theſe Floſcules has under it a ſingle Rudiment of a Seed crown'd with a Quantity of fine, ſilky, ſilvery colour'd Down. This ſurrounds the tubular Part of the Floſcules, and from their being cloſe ſet, is preſs'd every Way regularly and evenly round them, ſo as to form a kind of ſilky Cup to them.

The Rudiments of the Seeds are placed cloſe upon a riſing Receptacle, and they leave Dots behind them when they are removed.

This is the perfect Structure of the tubular Floſcules, which form the Diſk in the Flower: we are yet to examine the Rays.

Theſe are long, flat, narrow, and at the End cut into three Parts; they naturally ſpread themſelves out ſtrait; but when the Flower is decaying they turn backward.

Each of theſe Rays has at its Baſe the Rudiment alſo of a ſingle Seed: from this it riſes a little Way tubular, and is there ſmall, tender, and whitiſh: from the Rudiment of the Seed ſprings a ſingle thready Style, which riſes a little beyond the tubular Part, and there ſplits into two Heads.

The Body is white, and the Heads are yellow.

There are no Filaments in this Flower, but its tubular Baſe is ſurrounded as in the others, with a white ſilky Down riſing from the Seed.

Theſe are the two Kinds of Floſcules which compoſe the Doronicum Flower. In the tubular ones of the Diſk we ſee there are the Male and Female Parts, the Filaments with their Buttons and the Style; in the Rays which are called ligulated Flowers, there are only the Female Parts, the Style with its double Head. The tubular are therefore called Hermaphrodite Flowers, and the ligulated Female: this is the great Diſtinction; and this is in a manner univerſal throughout the *Syngeneſious* Claſs.

The Parts are very conſpicuous in this, we therefore have ſelected it for the Explanation; and as the Plant is now flowering, we requeſt the Student to lay a Flower of it before him as he reads, to compare the Deſcriptions of the Parts with the Parts themſelves; and by this Means not only to confirm theſe Obſervations, but imprint the whole Doctrine in his Memory.

For this Purpoſe let him ſelect a Flower that is juſt open'd; one in which only a ſingle Circle or few more of the tubular Flowers are open'd, and that but newly; for it is in ſuch a Flower, and ſuch only, the Parts are diſtinctly to be ſeen.

'Tis commonly ſaid that theſe Forms in the

Flowers are to be found only in Books, that in Nature all is not ſo diſtinct and evident: the Reaſon is, that thoſe who have examin'd Nature have not choſe properly.

When the Flowers are fully open, no Part is well to be ſeen; the Ends of the Rays curl back, and their trifid Extremity is obliterated or maim'd.

The Duſt from the Buttons of the firſt open'd Floſcules has ſcatter'd itſelf over the Diſk; their Segments are faded, and the reſt are ſo crowded together that all is Confuſion: but in a Flower of proper Ripeneſs 'tis not ſo.

Let our Student chuſe one newly open'd, whoſe Rays ſtand oblique, and have not begun to curl back at the End, and let him thus examine it. Firſt viewing it from behind let him take off one Leaf of the Cup, and with a Pen count the remaining Number, ſeparating them as he takes the Account; the Gap where one was taken off will ſhew him when he has gone the Round.

Next let him hold the Flower up to the Light, ſtill viewing it from behind: he will plainly ſee the trifid Top of each Ray. Let him then ſeparate one of the Rays: he will find the Rudiment of the Seed come with it: and juſt above the Top of its tubular Part, he will perceive the divided Head of the Style. Let him then ſeparate with the Point of his Pen one of the tubular Floſcules, and he will diſtinguiſh all its Parts; the Rudiment of the Seed at its Baſe, the Covering of ſilvery Down on its Tube, the five ſtar-pointed Segments; and the cluſter'd Buttons forming a Cylinder, out at whoſe Top juſt appears the Head.

The Filaments are ſhort, and cannot be ſeen but by tearing open the Floſcule.

The Parts thus ſtudied once will never be forgot. There is a Method of doing Things, by which alone they can be ſeen with Eaſe, and theſe minute Directions will be found far from frivolous.

The Seeds ripen under the Floſcules of the Diſk, as well as under thoſe of the Rim; and therefore the Section to which Doronicum belongs is that of the *Syngeneſia Polygamia ſuperflua*.

Culture of this DORONICUM.

The Plant is a Native of *Europe*, and principally of the Northern Parts: it thrives beſt on the Sides of Mountains where there is good Mould, Moiſture, and ſome Shade.

Theſe muſt be our Rules for its true Culture. It requires little Care, but whatever the Gardener admits into his Ground, we would have him raiſe in the moſt full Perfection.

Let him chuſe for this Plant a riſing Part of the Ground, where there is ſome Shade; and throw into a ſmall Spot the following Compoſt: Mix two Buſhels of Meadow Earth with one Buſhel of old Cow Dung, and a Peck of Sand.

In this plant in Autumn ſome Pieces of the parted Roots that have good Buds; and cover them half an Inch with Mould: they ſhould ſtand at fourteen Inches Diſtance, and they will after this require only the common Care of Weeding and now and then Watering.

The Seeds will alſo ſhoot freely: they ſhould be gather'd as ſoon as ripe, and ſowed on the ſame Soil, and in the ſame Situation we have directed for the Roots; either Way there will be a Supply of handſome Plants.

The Root of this Plant poſſeſſes a very ſingular Virtue againſt Diſorders of the Head, but it muſt be uſed in very ſmall Quantities: 'tis one of thoſe powerful Medicines which in immoderate Doſes act as Poiſons.

DOUBLE ORIENTAL NARCISSUS.

Pl. 37.
Fig. 4.

This is a Seaſon at which the latter Daffodils are in their full State of Perfection; and this among their almoſt numberleſs Kinds, is not the laſt in Beauty.

Our Gardeners have been long acquainted with the Plant, and it deſerves to continue in their Eſteem. They know it by the Name of the Noble or Conſtantinople Narciſſus.

C. BAUHINE has called it *Narciſſus luteus Conſtantinopolitanus*; and BESLER much more properly, *Narciſſus orientalis nobilis ſeu polyanthus mixtus*: the Flower is indeed, as expreſſed by this Denomination, of a mix'd Colour, rarely perfectly yellow throughout.

LINNÆUS, who refers the numerous Daffodils of our Gardens to a few original Species, ranks this among the Varieties raiſed by induſtrious Art from the Tazetta: This he diſtinguiſhes by the expreſſive Name, *Narciſſus ſpatha multiflora, nectario companulato foliis planis*: flat-leav'd many flower'd Daffodill, with a bell-ſhaped Nectarium.

The Student recollects that what Gardeners call the Cup of a Daffodill, is the Nectarium of the Flower; and he will find the reſt of this Name equally intelligible and expreſſive.

The Root is roundiſh, large, and cover'd with a tough brown Skin.

Three or four Leaves riſe from it: long, narrow, flat, or very little hollow'd; of a blueiſh but agreeable green, and of a firm Subſtance.

The Stalk is round, firm, upright, and fourteen Inches high.

At its Top there ſtands a very noble Cluſter of Flowers, ſix or more: each has its ſeparate Footſtalk an Inch and half in Length; and theſe all riſe together from the Head of the Stalk, where they are originally encloſed with their Flowers, in a green flat Scabbard.

They are large and elegant even when ſingle, but in the double State wherein we repreſent the Plant, there are few Flowers that exceed it in Elegance.

The Colour is mixt of White, a faint, and a deeper Yellow. Theſe are diſpos'd in various Degrees and Shades; and in different Flowers with a great deal of elegant Variety. Sometimes there is very little of the White, ſometimes abſolutely none; but, in that Caſe, the Variety of Yellows is ſtill pleaſing; the deepeſt Colouring being in the Middle, and the Yellow growing paler from thence outwards, even when it does not become any where altogether White.

The Characters of the Claſs are not to be ſought in this Flower, becauſe the Multiplicity of Petals obliterates, or at leaſt impairs them. In the plain and ſimple *Tazetta*, they are as in the other Daffodils.

The ſeparate Flowers have no Cup, but the general Scabbard ſerves that Office to them all.

The Flower conſiſts of a Nectarium and ſix Petals; and to the Tube of the Nectarium are fix'd ſix Filaments, crown'd with oblong Buttons. Under the Receptacle of the Flower is plac'd the Rudiment of the Seed-veſſel; and from this riſes a ſlender Style, longer than the Filaments, and crown'd with a trifid Head.

Theſe Parts, which are conſpicuous enough in the ſingle Flower, refer the Plant to the *Hexandria Monogynia* of LINNÆUS; his ſixth Claſs, and its firſt Section.

Culture of this NARCISSUS.

The Plant in its ſimple State is a Native of the *Eaſt*, and of ſome Parts of Southern *Europe*. It ſucceeds beſt where there is a light rich Soil; and the Sea or Salt Rivers in the Neighbourhood. This is not eſſential to its Growth; but as the Flowers are always fineſt when the Plant has this Advantage, a good Gardener will not neglect to give it.

Therefore let a Compoſt be prepar'd thus:

Mix a Barrow of fine Mould from an upland Paſture, with a Buſhel of Wood-Pile Earth; a Peck of Sand, two Quarts of Sea-water, or, in want of that, of Brine; and a Quarter of a Peck of Sheep's Dung.

In this ſow the Seeds, or propagate the parted Roots, as we have directed for the other *Narciſſus's*.

5. DOUBLE SCARLET LILLY.

Pl. 37. Fig. 5.

This will be found at firſt Sight a Variety rais'd by luxuriant Culture; but it is ſo elegant and ſpecious, and at the ſame Time ſo ſingular, that no Pains ſhould be call'd too great to produce it.

BESLER has figur'd it under the Name *Lilium cruentum flore pleno:* the double bloody Lilly; but the Colour is not well expreſs'd by that Term: it is a deep Scarlet, but not Blood-Colour.

In the common or ſingle State all the Writers on Plants have mention'd it; and under its various Appearances from different Accidents of Growth, have call'd it by various Names, as well as from the different Tincts of Red in the Flower; hence we ſee it deſcrib'd under the Title of *Lilium Phœnicium*, *Lilium rubrum*, and *Lilium purpuro-croceum*. The Granules, which ſerve for its Propagation as Seeds, have alſo been made another Subject of Diſtinction; and, when poſſeſs'd of theſe, it has been call'd *Lilium bulbiferum*, as if another Species.

All theſe LINNÆUS very juſtly refers to the one original Kind, which he happily characterizes by the Name *Lilium foliis ſparſis, corollis campanulatis erectis intus ſcabris:* Scatter'd-leav'd Lilly, with bell-ſhap'd upright Flowers, rough within. To this the preſent double Flower is obviouſly to be refer'd, as well as the others, tho' vaſtly ſuperior in Beauty to them all.

The Root is large, rounded, and compos'd of numerous Scales.

The Stalk is round, upright, firm, and two Foot and a half high.

The Leaves are plac'd irregularly, and are very numerous: they are long, narrow, wav'd and ſharp-pointed: they are of a firm Subſtance, and their Colour is a deep ſtrong Green. The Rib is pale, and the whole Leaf is of a ſhining Surface.

The Flower ſtands on the Top of the Stalk, large, ſpecious, and in the higheſt Degree ſingular. It is plainly of the Lilly Form, but full of numerous Petals, and greatly exceeding any other in Beauty.

The Colour is a fine deep Scarlet, covered with Spots of a duſky but not diſagreeable Red.

The Petals are oblong, wav'd, and pointed, and of a fleſhy Subſtance. Their Number is about Thirty, and they ſtand open in the Manner of Rays of a Star.

In the common Scarlet Lilly there are frequently two or three Flowers upon the Stem, each ſupported on a ſlight Footſtalk; and 'tis in this State of the Plant the Student is to trace its Characters.

He will in that Kind perceive the Flower riſing naked from the Stalk, with a ſmall bell-ſhap'd Baſe, and dividing thence into ſix large Petals, with thick, bent Points: toward the Baſe of each there is drawn a Line lengthway, which is the Nectarium.

In the Centre ſtand ſix Filaments, with large, oblong, incumbent Buttons, and in the Midſt of theſe riſes an oblong Germ, with a cylindric Style of the Length of the Flower, terminated by a triangular Head.

This is the natural Condition of the Flower; and this refers the Plant to the *Hexandria Monogynia*

gynia of Linnæus his ſixth Claſs and firſt Section.

From this natural Condition of the Flower we ſhall be led eaſily to underſtand the Nature of that ſpecious and ſingular Form in which it appears in the Plant here deſcribed.

We have ſeen that in moſt double Flowers the Parts of Impregnation are obliterated, the Fulneſs of the Petals taking the Place of them; on the contrary, in this Flower inſtead of ſix there are ten Filaments; or at leaſt a larger than the natural Number.

Let us recollect, that uſually they are two or more Flowers on this Plant; but in the double State only one: and we ſhall thence find that the Origin of this Doubleneſs is probably from the joining or uniting of the Footſtalks of the two or three Flowers into one Body; whence alſo the Petals form only one Flower.

This is the Origin, but this does not anſwer the whole Purpoſe; for if the Flower conſiſted of the three ſingle ones united, the Petals would be but eighteen, and the Threads with their Buttons would be of the ſame Number; whereas the Petals are here thirty, and the Threads only ten.

Nature has taken Advantage of the firſt Condition of the Flower thus formed of two, or three, or more, and has added from the Luxuriance of Culture many more Petals than they would have contained; reducing the Threads in Proportion.

Thus is formed this moſt ſpecious Flower, not as other double ones by the mere Exuberance of Nature, but from this aſſiſted by an accidental Union of two or more natural Flowers.

Culture of this Lilly.

This elegant Variety can only be raiſed by Seed; and when once obtained, muſt be increaſed by Off-ſets.

The Plant, in its wild State, is Native of the Eaſt, and of ſome Southern Parts of *Europe*, and it there grows always in a damp rich Mould.

This ſhould be the Rule for its Soil. A Mixture of two Parts, Meadow Earth and one Part Pond Mud, with a little rotted Cow Dung, will anſwer very well.

The Seeds ſhould be ſaved from a good Flower, and ſown on a Bed of this Compoſt in *Auguſt*. They will require the common Care of ſeedling bulbous Plants, as we have directed treating of the Fritillary; and when they come to flower, there will be many Varieties. If a double one do not appear from this firſt ſowing, the whole muſt be repeated; and when one of theſe is obtained, the Propagation muſt be by Off ſets, which encreaſe very faſt, and require the ſame Soil.

Once in three Years the Roots muſt be taken up, and their Off-ſets ſeparated. This ſhould be done in the End of *July*; and they ſhould then be planted again in Beds of the ſame Compoſt.

6. DOUBLE WOOD ANEMONE.

Pl. 37. Fig. 6.

This is a very humble Flower to be ranked among the Anemones, but it is properly and truly of that Kind, and is not unworthy a Place, provided it be rightly choſen in the beſt Gardens; though a Native of our own Country.

The original Plant for this double Flower is a Variety, as in other Caſes, is common in Woods, and is deſcribed by all who have written on the *European* Herbs: and moſt of them have given it the proper Name Anemone. Some, thinking ſo mean a Plant unworthy a Title commonly allotted to the ſpecious Kinds, have called it Ranunculus, adding *Phragmites albus*, and *Nemoroſus albus*.

Thoſe who have given it the proper Name Anemone, keep the ſame Addition of *Nemoroſa alba*.

Linnæus, more correct in his ſpecific Denominations, calls it, *Anemone ſeminibus acutis, foliolis inciſis, caule uniflore*: ſharp ſeeded Anemone with divided Segments, and one Flower on the Stalk.

The Root is oblong, irregular and brown: it runs under the Surface, and is hung with many Fibres.

The Leaves are placed on long ſlender Footſtalks, and are large, of a deep green, divided into three principal Parts, and thoſe again deeply cut on the Edges.

The Stalk is ſix Inches high, tender and reddiſh, not at all branched; and on its Top ſtands a ſingle Flower.

This in the wild and natural State of the Plant is large, white, and compoſed of ſix Petals placed in two Series, as the Flowers of the other Anemonies: like them, by good Management, it will become double, and in this State is very beautiful.

There will often, in the wild and ſingle State of the Flower, be a Bluſh of Crimſon with the White, which gives it a very conſiderable additional Beauty; in the double State it preſerves the ſame Tendency to this Mixture, and becomes often of a true peach-bloſſom. This is extremely beautiful in the double State; becauſe the Shades are innumerable among the Cluſter of ſmall looſe Petals.

To trace the Characters of the Plant, the Student muſt be refer'd to the wild ſingle Flower. This he will find like the other Anemones naked, compoſed of two Series of Petals, with a vaſt Cluſter of Threads in the Midſt, crowned with doubled Buttons, and in their Centre a Head or Cluſter of Rudiments of Seeds: the Threads he

Pl. 37.

1
Double
Peach bloom
Anemone
The
2
Guelder Rose
Great 3
Doronicum
4
Double
Oriential Narciſsus.
5
Double Scarlet Lilly.
6
Double Wood Anemone

will find adhere to the Receptacle, and the Rudiments of Seeds each crowned with its Style: the Plant is therefore one of the *Polyandria Polygynia* of LINNÆUS.

Culture of this ANEMONE.

In the wild State this Plant thrives beſt where there is moderate Shade and Moiſture, and a light deep Soil. In the Garden therefore the proper Place for it will be under a Hedge, or in ſome ſhaded and damp Corner. Let ſome one of the light Compoſts be thrown into ſuch a Spot, a Foot deep; and Seeds ſcattered over it in Autumn, ſaved from a wild Plant.

They will require little Care, but muſt be weeded at Times and water'd.

Among the Plants there will be found ſome with more than ſix Petals in the Flower, theſe muſt be marked for Seed; and that being ſown in the ſame Manner, will naturally afford ſome perfectly double Flowers.

Theſe muſt afterwards be propagated by parting their Roots, for they ripen no Seed themſelves.

* * *

CHAP. II.

The Management of the Flower-Garden, for this Week.

THIS Week ſhould be got into the open Ground the Remainder of the Annuals raiſed in hot Beds for the Autumnal Flowering.

Let the Holes be opened large enough and deep: let the whole Ball of Earth be ſhaken out of the Pot, and the Fibres trimm'd off all round: let the Ball with the Plant be ſet upright, and the Mould put in carefully about it: then a good Watering given, and a Stick thruſt in to tie up the Stalk: the double Balſams not removed before, muſt be thus managed, and the Amaranths, Love-Apples, Capſcium, and Palma Chriſti.

The beſt Opportunity for doing this is the cloudy Evening of a mild Day: if the Plants flag the next Day, they muſt be ſhaded from the Noon Sun, and watered conſtantly in the Evenings till well rooted. According to the Seaſon this will require ſometimes to be done ſooner, ſometimes later: but when the Weather is ſettled in warm is the true Time.

After this, they muſt be kept free from all Weeds, and watered during the whole Period of their Growth, as they require it.

Let the Gardener now look over thoſe Plants of the Anemone, and other Kinds which he had marked for Seed: once in a Week let him break the Surface of the Beds all about them; and every two or three Days allow a moderate Watering, unleſs the Seaſon be ſhowry. As ſoon as he perceives the Seeds of any of them attain their due Bigneſs, let him ceaſe Watering, and tie up the Stalk, cloſe under the Head, with Care to a firm Stick, to prevent the Effects of the Wind in ſhaking the Stalk, and blowing off the Seeds.

This is a very good Time for propagating the common Green-houſe Plants by Cuttings; and let it be done in this Manner: fill ſome Pots with light and rich Mould from any of the Compoſts of that Kind; or from a rich and well managed Border in the Garden; and if the Myrtle be the Kind intended to be propagated, chuſe a Parcel of good Shoots from the Shrubs; they muſt be ſeven Inches long, or thereabouts, and they ſhould be ſuch as are robuſt; not tender ones drawn by too much Shelter.

Take off the Leaves at the Bottom three Fingers breadth high, and twiſt the Stalk in that Part carefully: then open ſome ſmall Holes in the Mould, and plant the Cuttings; ſeveral in each Pot: they muſt be ſet in as deep as they have been ſtripp'd, and the Mould gathered carefully about them: they ſhould ſtand two Inches and a half apart, and the Mould muſt be ſettled by a careful Watering.

Then ſet the Pots under a Hot-bed Frame, and lay between them, and about them, ſome old Tan.

Shade the Glaſſes with Mats from Eleven to Four every Afternoon, except in cloudy Weather; and as the Mould dries in the Pots, keep it gently moiſten'd: once in three Days is uſually enough; but there can be no exact Rule. The only Way to judge when they want it is, to examine the Condition of the Mould at the Edges of the Pot.

At Noon every Day the Glaſſes muſt be raiſed, and Air given to the Plants; and this muſt be encreaſed as they root better, and get more Strength.

About the Middle of *July* the Cuttings will be well rooted, and they will ſhew this by beginning to ſhoot.

There muſt be from this Time more and more Air allowed them till perfectly inured to it, and in five Weeks more, that is toward the End of *Auguſt*, they muſt be ſet out in the open Air with the Green-houſe Plants.

Thus they may ſtand till the firſt Week in *October*; and they muſt then be houſed with the reſt.

From Time to Time they muſt be watered; and they muſt be carefully kept clear from Weeds and from decay'd Leaves all Winter.

In the Beginning of the following *April* they muſt be planted out ſeparately, and kept in a ſhady Part of the Greenhouſe, till the Time of ſetting them out with the other Plants.

In removing them into their ſeparate Pots, Care muſt be taken to preſerve a Ball of the Earth to each; and the Mould of the Pot muſt be very carefully cloſed; and kept in a due Temper with regard to Moiſture, till they are perfectly rooted in the new Earth.

This which we have illuſtrated in the ſingle Inſtance of Myrtle, holds good in regard to moſt of the ſhrubby Greenhouſe Plants; only that they muſt be manag'd with more Care as they are in their Nature more tender.

The Geraniums are propagated with great Eaſe this Way, and the Leonurus, Othona, Sage of Africa, and the Generality of the others.

The ſucculent Plants of many Kinds ſhould alſo now be propagated by their Cuttings; but theſe muſt lie ten Days upon a Shelf before they are planted, otherwiſe they will rot in the Mould.

This Week therefore let the Gardener take off his Cuttings of the Cereus Kinds and the like, and lay them to harden; for the ſecond Week in *June* is, in general, the beſt Time for planting them.

One old Plant of each Kind ſhould be kept for a Breeder.

The Stem is to be cut off at ſix or eight Inches length the firſt Time, ſo that only one cutting can be then had from one Plant; but after this there will riſe many young Shoots from the Part where the old one was cut off; and theſe when they are about nine Inches high are excellent Cuttings for propagating the Plants.

SECT. II.

The Management of the NURSERY, for this Week.

LET the Gardener look to his Beds and Boxes of ſeedling Spring Flowers. The Leaves will be decay'd by this Time, and he muſt refreſh their tender Roots by a freſh Covering of the ſame Mould.

Let the Surface of the whole Bed or Box be gently raked together, to gather up all Moſs or ſeedling Weeds; and in doing this, the utmoſt Caution muſt be uſed not to diſturb the young Roots of the Plants: after this, half an Inch Depth of the ſame Mould muſt be ſifted over them; and thus they are to be left for the Remainder of the Summer, only taking Care to keep them clear from Weeds.

The great Management of the ſeveral Parts of the Ground where Trees and Shrubs are planted, conſiſts only in two Articles, Weeding and Watering. Weeds grow up apace, and the Earth is naturally dry: one of theſe two Cauſes may deſtroy many of the tender Kinds; both will endanger even the hardieſt.

Let the Seedlings be firſt look'd after, for they are eaſieſt damag'd. Let the Beds of theſe be weeded always by Hand; and Care taken not to diſturb the young Plants. After weeding let them be water'd every Evening: and as the Weeds had ſhelter'd them in ſome degree before, it will now be very proper to defend them from the Noon Sun by a Reed Hedge.

Where the Trees are of more Growth, and planted out in Rows at due Diſtances, nothing is ſo proper as digging between them with a Spade. This has all the Advantage of the famous Horſehoeing Huſbandry; and at the ſame Time that it deſtroys Weeds, gives the Trees new Vigour.

This Week is a proper Seaſon for laying the Branches of the Paſſion-flower, the Clematis, and other climbing Shrubs.

The Earth muſt be kept moiſt by frequent Waterings; and with that Caution the Heat of the Seaſon will be very ſerviceable in promoting the ſhooting out of Fibres.

Let the Branches be ſuch as can be brought down with leaſt Force; and let them be twiſted and pierced through with an Awl in ſeveral Parts where they are to come under the Mould. Let them be cover'd four Inches; and peg'd down in two or three Places; that neither the Springyneſs of the Branch itſelf, nor the Force of the Winds may endanger the tearing of it up.

Many Layers careleſly manag'd are torn out of the Ground; and beſide theſe, a great many are deſtroy'd by ſhaking, juſt as they are ſhooting out their Fibres, though they are not raiſed out of their Places: the Reaſon of their failing is not ſeen; but in this careful Management it will always be prevented.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THE Seaſon for inoculating the ſeveral Kinds of Stone Fruit is approaching, and let the Gardener this Week look over his Stocks, examine their Condition, and mark ſuch as he intends to uſe for the earlier Kinds.

He is ſenſible that there are two Heights at which the budding may be perform'd, lower when they are intended for Dwarfs, and higher when they are deſign'd for Standards. For the firſt Purpoſe ſix or eight Inches above the Ground is the Height; and for the other, five or ſix Feet.

Let him examine the ſeveral Stocks that are in beſt Order; and mark by different Sticks ſuch as are fit for one Purpoſe, and ſuch as are ſuited to the other; taking Care that there be in each a ſmooth and good Piece of Bark at the intended Height of Budding.

A Fortnight or three Weeks hence, according to the Nature of the Seaſon, will be the proper Time for beginning this Work, and we ſhall then give the neceſſary Directions.

Toward the End of this Week let the careful Gardener go over all his Wall Fruit Trees. Where any Leaves are decay'd, or harbour Inſects, let him take them off: where fore-right Shoots have been produced ſince this laſt Examination, let him in the ſame Manner as he did then, rub theſe off; and where ſuch grow in a better Direction, as will be wanted the ſucceeding Year; let him now bring them to order, fixing them to the Wall. Every thing he does in this Way now will be ſo much Trouble ſaved next Pruning-time; and the Branches being thus train'd, will grow in due Form the more readily.

In doing this, Care muſt be taken not to diſturb the Fruit, nor even to hurt the Leaves; for the Gardener underſtands from what we have before ſaid, that the Fruit will not ripen without them. They ſerve the needful Purpoſe of ſhading them; and they alſo draw Nouriſhment to that Part where they grow.

We have directed the thinning of Fruit to be finiſh'd the laſt Week: therefore there are now no more on the Trees than they are able to ſupport, and ripen in Perfection: let the Gardener employ his Care to preſerve theſe. Snails will be dangerous now they are green; and a Multitude of leſſer, as well as larger Devourers, will attack them when they are ripe.

Every Morning and Evening, and after every warm Shower, let him look after the firſt; and by timely cleaning out the Holes and Crevices in the Walls, and deſtroying Ants and the like wherever he perceives them, let him ſo far as can be done, prevent the Encreaſe of the others.

This is a Seaſon in which Weeds ſhoot up freely, about the Stems of Fruit Trees, as well as in other Places; and if ſuffer'd to grow they will do more Miſchief than at almoſt any other Time.

The thinning of the Fruit, and this rubbing off the foreright Shoots, will have brought the Gardener's Feet often upon the Border where the Trees ſtand, and this will have harden'd the Earth about them.

In this Condition of the Ground, nothing can be ſo ſerviceable as good Digging up with a three-prong'd Fork, ſuch as we have directed him always to keep for this Purpoſe. This will at once deſtroy the Weeds, and looſen the Ground.

Let the Borders be raked after this Digging to take off the Weeds; and if the Trees require more Aſſiſtance, let ſome of the light and rich Compoſts be uſed, ſpreading this Mixture an Inch thick all over the Border. The Rains that follow will waſh in the Virtue of theſe Ingredients: or if the Seaſon be dry, there muſt be ſome good Waterings allow'd for the ſame Purpoſe; and thus the Fruit will have Plenty of Nouriſhment, and that of the richeſt Kind.

If this thin Coat of Compoſt be left expoſed to the Sun in a dry Seaſon, all its fine Parts will be exhaled, and it will anſwer no good Purpoſe; but if it be water'd either by the Hand, or by Showers, all the Virtue is carry'd directly down to the Roots, the Earth about them having been broke by the Digging.

Thus the Fruit being reduced to a proper Number, and the Tree well ſupply'd with Nouriſhment juſt as it is growing to Bigneſs, there will be every Thing that can conſpire to bring it to Perfection.

The Eſpaliers of every Kind muſt be treated in the ſame Manner as the Wall Trees; and when the ill-growing Shoots are rub'd off, and thoſe which are wanted, and which riſe in proper Places, duly train'd, the ſame Operation of digging, clearing, and enriching the Border is to be uſed.

Beſide the more common Trees planted for Eſpaliers, the Quince, the Medlar, and the Fig, will all very well anſwer that kind of Growth; and they will give a very pleaſing Variety; one hardly knows a prettier Sight than a Medlar Eſpalier in Flower, or a Quince one in Fruit. The Fig is more for Singularity than Beauty, but it is far from unpleaſing.

Another Tree not ſo common as it ought to be in Eſpaliers, this is the Mulberry. It is every Way preferable to the common Way of planting that Tree. The Fruit ripens better on the Eſpalier Tree than on thoſe tall Standards in common Uſe; and it is not ſo liable to be ſhook off by the Wind.

The only Caution particularly needful in this Inſtance is, that the Border be made wider than for other Trees; partly becauſe the Mulberry ſhoots more Fibres near the Stem than other Trees do, and partly becauſe the Fruit, when ripe, would damage the Cloaths of thoſe who paſſed along the Walks, if not kept at ſome more than uſual Diſtance.

The Method of Pruning muſt be this: let the Trees be train'd up with a ſingle Stem, and let Horizontals be ſuffer'd to ſtand on this about ſixteen Inches aſunder.

Let the Gardener underſtand the Reaſon: the Branches which proceed from a ſtrong Horizontal will not bear Fruit the firſt Year.

The Mulberry moſt frequently produces its Fruit from Buds near the Ends of thoſe Branches which grew from the Horizontals the Year before.

As neither the Buds of ſtrong Branches, nor thoſe at the lower End of a Branch produce Shoots that will bear, the collateral Branches muſt not be ſhorten'd. If the Horizontals were ſuffer'd to ſtand nearer than ſixteen Inches, the bearing Branches would too much ſhade one another. Eighteen Inches is uſually allow'd, but this is more than needful. Variety of Soils will make ſome Difference, but the Medium is about ſixteen Inches.

When the Bearers have grown to fifteen Inches, they ſhould be ſhorten'd: on this ſeveral Shoots will be made from them; and thoſe toward the lower Part ſhould be ſav'd. New Shoots from the Stem ſhould alſo be encourag'd for Horizontals, where requir'd.

By this Manner of Pruning, the Mulberry will make a very agreeable and profitable Eſpalier.

The Quince will require a Management ſomewhat different from this, its Horizontals, with all the Gardener's Art, will be ſhort; therefore let it be rais'd with a double Stem. Then let the Horizontals be train'd in larger Number; a Foot aſunder is a good Proportion; and for the reſt, the Pruning is to be the ſame as juſt directed.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

IF the Gardener has follow'd our Inſtructions, his Care in this Part of the Work will now be more for the Aſſiſtance of his Crops upon the Ground, than in providing others.

Weeds riſe no where ſo plentiful as in a Kitchen-Garden, and they are at no Time of the Year ſo troubleſome as now, nor ſo miſchievous. Let them be every where deſtroy'd by Hand, by the Hoe, or by the Spade, according to the Condition of the ſeveral Crops among which they have got Footing.

They are ſtrong at this Seaſon, and the Crops but weak: they will therefore ſoon over-power and ſtarve them. It is the Seaſon alſo when a great many of them ripen their Seeds; and if not deſtroy'd now they will lay the Foundation of a great deal of Trouble.

The Seeds of many of them will ripen as they lie upon the Ground, and by Means of the Down annex'd to them, will be carry'd all about the Garden. Let Care be taken to prevent this.

When the Crops are clean'd in this Manner, if the Seaſon prove dry it will be a great Refreſhment to them to have a moderate Watering.

Every thing being thus put into a good Condition of Growing, let what new Crops are requir'd be put in upon the Pieces of Ground, clear'd from the early Growths, and enrich'd by ſome good old Dung well dug in.

Upon a Piece of Ground thus prepar'd, ſow ſome Brocoli Seed for a ſecond Crop. Scatter the Seed thicker this Time than in the earlieſt Sowings; for it does not come up ſo certainly.

As ſoon as the young Plants appear let them be refreſh'd by gentle Waterings; and when they are of Growth enough to ſhew which are the ſtronger, and which the weaker, let a careful Hand be employ'd to weed the Bed, and to thin the Plants where they have riſen too cloſe: taking up the weakeſt.

Dig another Piece of the like Ground very well, and plant ſome French Beans. Watch them at their firſt coming up, and take Care to deſtroy Slugs and other Vermin about them. Give them at Times gentle Waterings; and when they are thus ſet well to growing, they will be ſoon out of Danger.

Lay out another Piece of Ground for blanching of Celeri. Let this be very well and very deep dug up; and mark out the Lines for Trenches, at a Yard aſunder. Dig theſe with particular Care, break the Earth ſmall, and then bring in the Plants from their Bed.

Set them five Inches aſunder, and lay in the Mould well about them. They will grow in a very favourable Manner, becauſe of the great Space of vacant Ground between the Rows; for the Roots of Celeri ſend out extremely long, tho' very ſlender, horizontal Fibres: and they will thus be very eaſily earth'd up from Time to Time, becauſe there will be Plenty of good Mould, and free Room for the Spade to work between them.

Every Time the Earth is broke for the drawing it up about their riſing Stalks, the Plants will ſhew new Vigour; and they will riſe to a greater Degree of Excellence, than in the artleſs Manner we ſee too often us'd of cloſe Planting.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XXXVIII.

For the Beginning of *June*.

SECTION I.

FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

1. EUROPÆAN TROLLIUS.

June. Pl. 38. Fig. 1. THE Gardener is not unacquainted with this Plant, nor will miſtake its Figure, tho' accuſtom'd to call it by a different Name. It has long been a Favourite among the Plants, preſerved for their Singularity; nor do many who raiſe it in their Borders, know that it is a wild Plant of our own Country.

This ſhews how little Trouble is needed for its Management; and no one who ever ſaw the Flower, will diſpute that it deſerves the Place it has ſo long maintain'd among the cultivated Plants.

Few of the Writers on Botany have omitted to deſcribe it, tho' moſt of them have been miſled by its Reſemblance to the Crowfoot Kind, to call it by that Name: from the Form of the Leaves, and the Size and Colour of the Flower, they were led to rank it among theſe Plants; and from its ſpherical Shape, they added the Diſtinction *globoſe*.

They have named it *Ranunculus globoſus*, *Ranunculus flore globoſo*; and *Ranunculus aconiti folio montanus*: from its Place of Growth, and Form of the Leaves.

From its moſt uſual *Latin* Name the *Engliſh* Gardeners call it *Globe Crowfoot*; ſome by an antiquated Provincial Term, *Locker Gowlons*; and ſome, the *Globe Flower*. This laſt is greatly preferable, becauſe it does not refer the Plant to any other Genus, or create Confuſion. June.

LINNÆUS, from the different Structure of the Female Parts of the Flower, the Seed Veſſels, and its want of other eſſential Characters of the Crowfoot, ſeparated it from that Kind; in his earlier Works, the *flora Suecica* and *Cliffort* Garden, he refer'd it to the Hellebore; but in his lateſt Pieces he has allow'd it a peculiar Genus.

For this he has adopted one of the old *Latin* Names of the Plant *Trollius*; and in Diſtinction from an *Aſiatic* Kind, he adds to the Title of this *Europæan* one, *Corollis conniventibus nectariis longitudine ſtaminum*: ſhut-flower'd Trollius, with the Nectaria of the Length of the Threads. This is a perfect Diſtinction; for in the other the Flower expands, and thoſe Glands are as long as the Petals.

The Root is compoſed of a Multitude of long black Fibres, connected to a ſhort and ſmall Head.

The Leaves that riſe from this have long green Footſtalks, and are of a rounded Form, cut down to the Baſe into five principal Parts; and then again divided into other deep Segments, all ſharp pointed, and deeply notch'd at the Edges: this Form, and the Support of a long Stalk, gives them a great deal of Beauty; and their Colour is a deep and fine green.

The Stalk riſes in the Midſt of theſe, and is round, tolerably firm, but hollow, and of a pale green; it riſes to two Foot in Height.

The Leaves on this perfectly reſemble thoſe from the Root, but that they have no Footſtalk.

The Flower is large, and extreamly ſingular and beautiful. It is large, of a perfect Gold yellow, and compoſed of numerous Petals, which all turn inwards; ſo that the Shape is ſpherical: at firſt it is abſolutely clos'd at the Top, but as it ripens more, there appears a little Opening in the Middle diſcloſing numerous golden Buttons.

This appears at a tranſient View; but on the Student's nearer Attention, there will be found a great deal more of Singularity as well as Beauty.

The Flower is fix'd naked on its Footſtalk. The Number of its Petals is naturally ten, but this Culture often makes it exceed, and in the wild Plant I have ſometimes counted twelve or fourteen. Five of theſe always ſtand in a particular Series innermoſt, and they bend in the moſt.

The others are placed in different Series, two or more: all are broad and obtuſe. Within are placed nine Nectaria; theſe are ſlender, all the Way of equal Breadth; flatted, bent inwards, umbilicated, and mark'd near the Baſe on the Inſide with a Perforation: they are nearly of the Length of the Threads, and are moſt diſtinctly ſeen in a newly open'd Flower.

In the Centre are placed numerous fine Threads, with upright Buttons, and in the Midſt of this Cluſter ſtand many oblong Rudiments of Seed-veſſels. Theſe have no Footſtalks, they are of a columnar Form, and are terminated by pointed Tops without any intermediate Style. Theſe Rudiments are ſhorter than the Threads, and they ripen into ſo many longiſh, oval Capſules, with crooked pointed Tops; each containing a round, ſhining Seed.

The Number of theſe Filaments, and their Adherence to the Receptacle of the Flower, not to the Petals, ſhews the Plant one of the *Polyandria*: and the numerous Tops or Stigmata, for there are no Styles, declare it one of the *Polygynia*.

Culture of this TROLLIUS.

The Plant is a Native of all the cooler Parts of *Europe*. We have it wild in the Northern Counties; and in *Wales* alſo it is very common. It is moſt frequently found on damp Ground, on the Sides of Hills, and where there is ſome Shade. This ſhews what we ſhould attempt in its Culture.

A Soil of the ſame Kind with that a Plant has wild, only richer, is generally the true Method of raiſing it in a Garden; and ſuch a Situation ſhould be choſen as it has in Nature. Therefore let the Gardener mix for his Compoſt for this, a Buſhel of Meadow Earth, three Pecks of Pond Mud, and one Peck of Cow Dung well rotted.

Let him chuſe a riſing Part of the Ground where there is ſome Shade; and taking away the Mould, fill the Place with this Compoſt. The Plant flowers in *May*, and the Seeds will naturally ripen in *July*.

Let him favour their ripening by clearing away the Ground about a thriving Plant; and often breaking the Surface, and watering it.

When the Heads are ripe let him lay them to dry on a Shelf; and after the Seeds have been ſhaken out of them, and harden'd a few Days, let them be ſown pretty thick upon this Bed, and cover'd a Quarter of an Inch with ſifted Mould.

Let a few Hawthorn Buſhes be thrown upon the Ground, and thus leave them to Nature.

When the young Plants come up they muſt be weeded and watered; the fineſt of them muſt be left ſtanding at a Foot Diſtance, and thus they will flower in their full Perfection.

Once in two Years the Earth ſhould be removed, in Autumn; and the Roots when large, parted; thus there will be a Supply of new Plants, and the Flowers will always be large, and bright in Colour. The Petals will in ſome be very numerous, but theſe are not the moſt beautiful.

2. THE FLAMING TULIP.

Pl 38. Fig. 2. This is a Tulip much eſteem'd in *Holland*, and worthy of all the Regard they ſhew it. Beſide the elegant Singularity of its Colouring, the Time of the flowering gives it a particular Merit, for it comes in after the Generality have loſt their Beauty; and ſhould for that Reaſon be planted in a ſeparate Bed, or with the two or three other late Kinds, not among the Generality of the others.

Few People look into a Bed of Tulips for a Flower or two after the reſt are faded; and for that Reaſon this has been much leſs known, or regarded than it deſerves; for it does not come into full Bloom till the general Flowering is over.

It is one of the many Varieties produced by Culture from the common oriental Tulip; and is to be treated, in general, like the others.

The Root is large, and cover'd with a blackiſh Skin.

The Leaves are very broad, of a greyiſh green, waved at the Edges, of a firm Subſtance and hollow.

The Stalk is thick and upright, a Foot high, and of a pale Colour. There are two or three Leaves on it, like thoſe from the Root, and at the Top a ſingle Flower: this is of the larger Size among the Tulips, and inferior to few in the Beauty and Singularity of the Colouring.

The Ground Colour is a pure ſnowy White, neither tending at all to the yellow or the grey Caſt. The Variegations are Red and Yellow; they make a great Shew upon the white Ground: and there are in the beſt Flowers ſeveral Gradations between the two Colours, ſuch as Flame Colour, Orange, and Saffron, beſide the perfect Red and the pure Yellow. In general, the Red lies in broad and deep Veins down the Petals; and the Yellow forms a kind of Embroidery on the Edge.

The Culture of this has nothing particular: it is rais'd from Seed among other Varieties; and when obtain'd that Way, muſt be propagated by Off-ſets.

The whole Management ſhould be what we have directed for the Tulips in a preceding Number.

3. The PEARL and PURPLE TULIP.

Pl. 38. Fig. 3.

This is a very elegant Flower, tho' not one of thoſe form'd to ſtrike the diſtant Eye with its Beauty. The Colours are only two, and theſe ſo finely blended, that it requires a near Inſpection to trace them fully.

It is a Variety of the common Oriental Tulip, and flowers with the preceding.

The Root is ſmall, oblong, and cover'd with a Cheſnut-colour'd Skin.

The Leaves are broad and ſhort, of a blue Green, hollow, obtuſe, and not much wav'd at the Edges.

The Stalk is weak and ſlender: it is uſually near a Foot in Length; but, unleſs ſupported, does not carry the Flower erect.

There are two or three Leaves on it altogether like thoſe from the Root. At the Top ſtands one elegant Flower.

The Petals are ſix, as in other Tulips; and they naturally throw themſelves open.

The Colours of theſe are two; a very delicate pearly White, and a fine Purple: the White is the Ground Colour; and the Purple is laid on in oblique Streaks, from the Central Part of each Petal to the Edge; and in ſome wav'd Lines at the Top. Theſe are ſmall like Threads, in the moſt perfect State of the Flower, and lie ſo near one another, that, at a very little Diſtance, the Diſtinction is loſt between them and the white Spaces; and they give a univerſal Glow of Purple to the Flower.

The internal Parts are the ſame in Number, Form, and Diſpoſition, as in the other Tulips, and ſhew it one of the *Hexandria Monogynia*.

The Culture in nothing differs from that of the others, which we have deliver'd at large in a preceding Number.

Among the Tulips which break from good Seedlings, this will be found; and it is afterwards to be propagated by Off-ſets.

The natural late Time of its Flowering, is a pleaſing Singularity; and it may be ſomewhat farther put back by late Planting; but if too far thrown into Summer, it will not flower ſo well, or laſt any Time. A Place leſs expos'd to the Sun ſhould be choſen for theſe late Tulips, and they ſhould be planted together. They will require frequent Waterings toward the Time of Flowering.

4. YELLOW MOLY.

Pl. 38. Fig. 4.

The Gardener muſt be told that *Moly* is no diſtinct Genus of Plants, but properly a kind of Garlick: as the Name is old, and long receiv'd, we avoid perplexing him at ſetting out, with another.

This Kind has long been well known in our Gardens, and all the common Writers have deſcrib'd it. They call it *Moly latifolium*, *Moly flavum*, and *Moly latifolium luteum odere allii:* Broad-leav'd *Moly*, yellow *Moly*, and broad-leav'd yellow *Moly*, with the Garlick Scent.

Linnæus ſeeing the Characters the ſame, ranks it with the other Garlicks, and calls it *Allium ſcapo nudo ſubcylindrico, foliis lanceolatis ſeſſilibus umbella faſtigiata:* Garlick, with a faſtigiated Umbel, a naked nearly cylindrick Stalk, and lanceolate Leaves without Footſtalks. A long Name, but needful, becauſe of the numerous Species.

The Root is roundiſh, white, and juicy: often it is double.

The firſt Leaf from the young Plant is ſingle; when it is to flower there riſe two: theſe ſurround and encloſe one another at the Baſes, and are of a fine ſtrong Green. They are ten Inches long, and of a firm Subſtance: they raiſe themſelves from the Ground; and are ſmall at the Baſe, largeſt toward the Middle, and again ſmall to the Point: they are a little hollow'd; and, when bruis'd, they have the Garlick Smell.

The Stalk riſes between them, and is naked, firm, though ſlender, and fourteen Inches high. There is no Leaf on this; but at its Top ſtands a large Cluſter of gold yellow Flowers, ſupported ſingly on long Footſtalks. They form a kind of Umbel; and the Footſtalks are ſo equal in Length, that the Flowers ſtand in the ſame Level: not rounded, as in moſt of the Umbelliferous Plants, or depreſs'd in the Middle, as in ſome of them, but flat. This is the Form LINNÆUS expreſſes by the Term *faſtigiated.*

The whole Tuft makes a ſpecious Appearance. All the Footſtalks riſe from one common Point at the Head of the Stalk, and are at firſt enclos'd in a rounded Scabbard; but this ſoon burſts and fades.

Each Flower is plac'd naked on its particular Stalk, and is compos'd of ſix oblong, narrow Petals, which ſtand hollow and erect.

In their Centre riſe ſix Filaments, equal to the Petals in Length, and ſmaller from the Bottom to the Top, terminated with oblong upright Buttons. In the Midſt of theſe is plac'd the Rudiment of the ſucceeding Seed-veſſel, which is roundiſh, but mark'd with three ſlight Ridges, from which riſes a ſingle Style, crown'd with an acute Head. The Seed-veſſel ripens in a ſhort three-parted Form, with three Valves, three Cells, and numerous rounded Seeds.

The ſix Filaments ſhew it one of the *Hexandria* of LINNÆUS, his ſixth Claſs; and the ſingle Style marks it as one of the firſt Section under that Head.

Culture of this ALLIUM.

The Plant is a Native of the Mountainous Parts of *Europe*, the *Alps* and *Pyrenæans*, and is very common by the Sides of Hills in *Hungary*. It thrives beſt where there is a rich Soil with ſome Shade and Moiſture.

In Gardens 'tis hardy, and eaſily kept alive; the Gardener therefore allows it little Care or Attention; but he may raiſe it to a very ſuperior Degree of Excellence by better Management. His common Way is to procure Off-ſets; and he plants theſe not where they will thrive beſt, but where he ſees a Vacancy in a Border.

Let him chuſe the Spot, adapt the Soil, and raiſe the Plant from Seed; and he will ſee Flowers very different from thoſe the common Gardener raiſes, according to his common Guide's Direction.

Mix up a Compoſt in this Manner:

A Barrow of rich Meadow-Earth, the ſame Quantity of River-Mud, a Buſhel of Wood-Pile Earth, and five Pecks of Sand.

Mark ſome good Plants when in Flower, as they now are, and keep the Ground clear and well water'd about them: tye up the Stems to Sticks; and when the Seed-veſſel is ripen'd, and ready to ſplit, cut off the Head, and lay it on a Shelf in an airy Room.

The Compoſt will be by that Time ready: if mix'd up in *June*, and two or three Times turn'd, it will in *September* be fit for Uſe.

Take out the Mould in a ſhaded Part of the Nurſery; put in this Compoſt, and ſcatter on the Seeds. Cover them a Quarter of an Inch; and throw a Piece of Hawthorn over the Place. Let this Piece be weeded and water'd from Time to Time.

When the young Plants appear, let them be thin'd; and when their Leaf decays, ſift over them half an Inch of the ſame Compoſt.

When they flower, mark the fineſt; and in the third Week of *Auguſt* prepare a Piece of Ground for them in the Garden. Let the ſame Compoſt be us'd. Level the Surface, place the Roots regularly at a Foot Diſtance, and cover them three Inches. The next Year about this Time they will flower in full Perfection.

After this, every Year let them be taken up in *Auguſt*, and the Off-ſets taken off. Let freſh Compoſt be us'd, and let them be planted as at firſt.

It has been by this Method I rais'd thoſe Plants of *Moly*, which appear'd to Gardeners a new Species; ſo much ſuperior to the Plant in its uſual State. If the curious Reader will compare the Method of Management with that given by the common Writers, he will not be at a Loſs for the Reaſon.

The Word *Moly* (for it is a *Greek* Name) occurring frequently in the Writings of the Antients, the Curious have been at Pains to find to what Plant it truly belong'd. They do theſe Writers a great deal of Honour: many of them knew too little Botany to underſtand themſelves; and hence the vain Toil of their Commentators.

Some very reverend Names among them, by *Moly*, mean *Harmala*, wild Rue; a Plant as different from the Garlick Kind, as any two that can be imagin'd.

HOMER, who talks of *Moly* as an Herb ſhewn by the Gods to Mankind for its Virtues, gives no farther Deſcription of it, than that the Root is black, and the Flower white:

> ϱιζαν μεν μελαν εσκε γαλακτι δε εικελον ανθος.

So much alſo OVID knew of it, and tranſcrib'd faithfully;

> ——*Florem dederat Cyllenius album*
> ———— *nigra radice retentum.*

and this the great Men, who undertook to explain their Works, and from them all Antiquity, apply'd to the wild Rue.

Doubtleſs, a Plant with a black Root and white Flowers, if the Deſcription go no farther, may find many Names: but THEOPHRASTUS, the Father of Natural Hiſtory, better deſcribes the Plant: he ſays it had a Root like an Onion, but black, and Leaves of the Squill.

This probably was the Plant meant by HOMER, for THEOPHRASTUS liv'd neareſt his Time; and this refers to the white flower'd *Moly*, a Plant, as this yellow, of the Garlick Kind, whoſe Root is on the Outſide black; leſs elegant than this golden flower'd Species, tho' more celebrated of Antiquity.

As ſome confounded the *Harmala*, and *Moly*, others have perplex'd themſelves between the common Yellow Kind, and the true White. They are Natives of different Countries; this of *Europe*, that of the warmer *Aſia*.

To that Plant, not amiſs, belongs the Culture our Gardeners give to *Moly*; for being a Native of light and barren Sands, in open Expoſures, it bears, with us, a looſe poor Earth, and an unſhaded Border; but 'tis otherwiſe in Reſpect of this, native of damp and ſhadowy Places.

5. ALTERNATE-FLOWERED GLADIOLUS.

Pl. 38. Fig. 5. We propoſe here to the Gardener's Care, a Plant well known, but not always well manag'd; whoſe Flowers give it a Right to a Place in every Garden; and afford the Gardener an Opportunity of very advantageouſly ſhewing his ſuperior Skill in filling the Colour, and enlarging their Body.

He is us'd to underſtand the *Gladiole* or Corn-flag, as of two Kinds; the one with the Flowers all on one Side the Stalk, the other with them diſpos'd alternately on both: theſe are not diſtinct Species, but Varieties of the ſame Stock. Both may be rais'd from Seeds of the ſame Plant; and he may unite their Excellencies.

In the common Courſe of Things, the Flowers are fewer and larger in thoſe Plants where they hang all on one Side, and more numerous, but ſmaller where they are on both. Commonly, alſo, the Colour in this laſt Caſe is inferior.

We ſhall ſhew him by what Method he may encreaſe the Number of Flowers, without diminiſhing the Luſtre; and throw them on both Sides the Stalk, while they are as large as uſually ſeen on one.

The Plant has been a great while familiar in our Gardens, and is deſcrib'd by all the common Authors: they led the Gardener into his Miſtake, of ſuppoſing the two Varieties we have nam'd to be diſtinct Species; and TOURNEFORT, their Oracle's Oracle, has indeed, in moſt Caſes, been the Cauſe.

Authors in general have deſcrib'd it under the proper Name *Gladiolus*; ſome have call'd it *Xiphion.* The Epithets of Diſtinction have been generally taken from its Place of Growth; *Narbonenſis* and *Italicus*, the *Italian* or the *Narbon Gladiole*; and thoſe who diſtinguiſh the Varieties as Species, have nam'd them, from the Diſpoſition of the Flowers, *uno verſu*, and *binis ordinibus: Gladiole*, with the Flowers hanging one Way, and *Gladiole* with two Series of Flowers.

The *Engliſh* Name is *Corn-flag*, but 'tis little us'd; our Gardeners have been taught *Latin* Terms, and 'tis to their Credit they endeavour to remember them.

LINNÆUS, who juſtly conſiders the Plant as the ſame in both theſe States, names it, without Reference to that Diſpoſition, *Gladiolus foliis enſiformibus floribus diſtantibus:* Sword-leav'd *Gladiole* with diſtant Flowers. This is the Diſtinction from thoſe Kinds in which they hang over one another cloſe, and in the Manner of Scales.

The Root is roundiſh, ſmall, cover'd with many Skins, and hung from the Baſe with Fibres.

The Leaves are narrow, long, ſharp-pointed, and of a fine freſh Green.

The Stalk riſes amidſt theſe, and is ſurrounded and encloſ'd by them at the Baſes. It is ſmooth, round, of a pale green, tolerably erect, and two Foot high.

The Top is decorated with a fine long Spike of Flowers, large, and of a very glowing Crimſon. Theſe have no Cup, but in the Place of one a few vague light ſcaly Scabbards.

The Flower is large, and compos'd of ſix oblong Petals, united at their Baſes; ſo that if the Student pleaſes, he may call them Segments of one Petal; the Part where they unite is tubular and crooked.

The Petals or Segments are obtuſe at the End: three of them, plac'd upwards, ſtand near to one another, and are convergent; the three others are more diſtinct from theſe, and from one another.

On ſeparating the Petals, there will be found three Filaments, crown'd with oblong Buttons. They riſe alternately between the Segments of the Flower, and throw themſelves upwards among the three convergent and ſuperior Petals.

Below the Receptacle of the Flower is plac'd a Rudiment of the Seed; this gives Riſe to a ſimple Style, as long as the Filaments, and crown'd with a three-parted Head.

The Claſs of the Plant is ſeen familiarly in the three Filaments: they refer it to the third in the LINNÆAN Syſtem, the *Triandria*; and the ſingle Style ſhews it one of the *Monogynia.*

The Seed-veſſel is ſwoln, oblong, obtuſe, and mark'd with three Ridges: it has three Valves and three Cells, with numerous roundiſh hooded Seeds.

Culture of this GLADIOLE.

The Plant is a Native of the Southern Parts of *Europe*, where it is found moſt flouriſhing in a light rich Soil, not wholly expos'd to the Noon Sun.

This is the Gardener's Rule for its Culture:

Let him chuſe a Spot that has the Morning Rays; that is defended from the North Wind, and ſhelter'd from the South Sun; and there lay in a light rich Compoſt; in this the Plants are to be rais'd from Seed, and in this they muſt flower: only letting it be chang'd for freſh of the ſame Kind every other Year.

The common Method of propagating them is by parting the Roots; but 'tis not thus we direct our Pupil to manage Flowers.

June.

In thoſe Kinds which are mere Varieties, and not certain to be produc'd alike from Seed; and in thoſe double Flowers which ripen no Seed of their own, he muſt have Recourſe to this Method by Off-ſets; tho' beſide that we ſhall always adviſe repeated Sowings: in theſe which riſe with Certainty from Seeds, in the expected Form and Colouring, we adviſe him to take off the Off-ſets at Times, becauſe, like Suckers round a Flowering-Shrub, they exhauſt the Nouriſhment, and the Flowers are rendered weaker: but 'tis not to plant again that we would have him take them away: the Method by Seed is eaſy, and on this alone we would have him depend for a Succeſſion.

Let him mark ſome Plants for Seed; ſelecting ſuch as have a firm Stalk and large Flowers; no Matter for their Number or Diſpoſition. Let the Ripening of theſe be promoted by all poſſible Aſſiſtance: let no Plant ſtand near them; let the Mould be often broke about the Root, and ſometimes water'd; and let the Stalk be ty'd up to a firm Stake, to prevent the bad Effects of the Wind.

When the Seed-veſſels are full grown and well harden'd, let the Head be cut off, and laid on a paper'd Shelf. A Week after this let the Seeds be ſhook out; and after ten Days lying upon the ſame Shelf, they will be perfectly harden'd and fit for Sowing.

It will by this Time be the right Seaſon for ſowing them.

Let a Part of the Nurſery be choſen that is ſhelter'd from the North Wind, and from the Noon-day Sun. Let the Mould be taken out, and a ſmall Bed fill'd up with any one of the light rich Compoſts. On this ſow the Seeds, in the latter End of *September*, and cover them a Finger's Breadth with the ſame Compoſt.

Let the Bed have the common Care of Weeding, Watering, and Defence from Injuries; and the Plants will appear and take their Growth favourably.

In the Autumn following, let another Bed, larger than the firſt, be prepar'd with the ſame Compoſt, and the Roots taken up and planted in this, at five Inches Diſtance. Here they are to ſtand till they flower, keeping the Bed weeded and water'd as neceſſary.

When they flower, let the Gardener mark four or five of the fineſt, that is, of ſuch as have the ſtraiteſt Stalks, and the largeſt Flowers.

When the Seaſon of Flowering is paſt, let all the reſt be taken up and clean'd, and laid on a Mat in an airy Room to harden; and in the *October* following, let them be planted out in the common Way, in the Borders; to take their Chance among other Flowers.

June.

Let thoſe Roots which were mark'd for Seed remain in the Bed; cut down their Stems after the Flowering is over, and ſift upon the Bed half an Inch of Mould.

Keep all clear; and in Spring dig up the Bed, obſerving not to come too near the Roots. Place a Stick by each, in Time, as tall as the Flower is likely to riſe, and from Time to Time tye up the Stalk. Let all poſſible Care be taken of the Plants; for this Year they are to ſtand for Seed.

Let this be ripen'd with the ſame Care, and ſav'd in the ſame Manner as we directed the former Year; and in the Beginning of *September* let a Bed be made up for the Reception of it.

This, with the ſame Management directed for the other, will produce the fineſt Flowers the Plant is capable of ſhewing. They will be numerous, large, and glorioufly colour'd; and they will ſtand in many of the Plants in the double Series, ſo much eſteem'd; that is, in an alternate Order on the two Sides of a wav'd and curl'd Stalk.

Theſe ſhould be mark'd when in Flower; and when, the *July* or *Auguſt* following, the Roots are taken up, they ſhould be kept ſeparate; and planted together in a different Bed from that which has the others, tho' they will in their Kind be no leſs handſome.

This is a Proceeding that takes up ſix or ſeven Years: it will therefore, to Perſons unacquainted with theſe Things, ſeem a difficult and tedious Proceſs; but to thoſe us'd to the Care of a Garden and Nurſery, it is known well enough that there is little in theſe Things: one Bed of Seedlings takes its Time and Chance among the others; and there is no particular Trouble in dreſſing and managing it, in common with the reſt of the Ground.

After a Stock of fine Flowers is thus obtain'd, they may be propagated, if the Gardener pleaſe, by Off-ſets; but 'tis beſt to keep Seed-Beds always growing; ſaving from Time to Time the Seeds of the fineſt Plants for that Purpoſe.

He who has not manag'd the *Gladiole* this Way, or ſeen it where it has been manag'd ſo, does not know to what Perfection it is poſſible to raiſe it.

6. GREAT CRIMSON PIONY.

Pl. 38. Fig. 6. There is not a Flower more known than this in the *Engliſh* Gardens, and ſcarce one ſo ſpecious. It is too common to be much regarded: but this is a falſe Taſte: if new brought from *America*, the whole Botanic World would reſound with its Praiſe.

Few of the Writers on Plants, or Flowers, have failed to name the *Piony*, its Luſtre and its Virtues recommending it. They have, in general alſo, called it by the ſame Name *Pæonia*; and this particular Kind they call the Double and the Female Piony. They deſcribe a Male Piony, a Dwarf Piony, and ſome others; all which LINNÆUS refers to one original Plant, calling it without Addition, *Pæonia*, the Piony.

He thinks the whole Differences whence theſe have been named by others, to be no more than Variety from the Accidents of Soil and Culture.

The reſt have called this Kind, *Pæonia flore rubro pleno*, *flore pleno rubro majore*, and *Pæonia femina multiplex*.

The Root is long and tuberous, brown on the outſide, pale within, and of an unpleaſing Taſte.

The Leaves are large; and irregularly divided into a Multitude of Parts, which are oblong, uncut at the Edges, obtuſe, and of a firm Subſtance; of a full green on the Upper-ſide, and pale underneath. The main Footſtalks are of a pale green; and the Branches which ſupport the Diviſions, are often ting'd with red.

The Stalk is round, green, thick, irregularly divided, and two Foot and a half high. The Leaves on this reſemble thoſe from the Root, but that they have fewer Diviſions.

Their Flowers are numerous and extreamly beautiful. Their firſt Appearance is in a vaſt oval Bud, of a deep crimſon Colour, placed in a ſmall Cup form'd of five unequal Leaves; which are rounded, hollow'd, and naturally turn back at the Top and Sides; this Cup remains with the Fruit.

The Bud by degrees opening ſeveral Ways, diſcloſes itſelf in form of a vaſt ſpecious double Flower, compoſed of innumerable Petals, all large, and all deeply and finely ſtain'd with crimſon; but of various Size and Shape.

The outer Petals, or thoſe which riſe immediately within the Cup, are large and rounded. Theſe are naturally five; they conſtitute the Flower when ſingle, and they are the Baſe of all this glorious Fullneſs: the reſt which fill the Body of the Flower are of irregular and uncertain Form, ſome flatted and plain; others waved, curled, and indented at the Top; ſome broad and ſhort, others longer and narrow, and ſome hollow at the Baſe, others all the Way; and not unfrequently there are ſome which mimick the Shape of the Leaves of the Plant.

The whole is ſtain'd when the Flower is in its plain perfect State, with a uniform deep crimſon: but there are many Varieties in this Reſpect: ſome are pale, and ſome ting'd with a deeper and paler red, and with white. There is Prettineſs in theſe ſeveral Appearances, but the true Glory of the Flower is when the Colour is rich and ſimple.

To find the Claſs of the Plant, we muſt refer the Student to a ſingle Flower. Let him examine ſuch a one, whether Male or Female, Dwarf, or by whatever other Name it is called, and he will find the Parts alike.

The Cup and the five Petals here form the whole Flower: in its Centre riſe a vaſt Number of ſlender and ſhort Filaments, crown'd with upright, oblong, ſquare Buttons; and in the Midſt of theſe appear the Rudiments of the Seed-veſſels. They are upright, of a greyiſh green, and hairy: their Number is properly two, but in this Reſpect Nature wantons extreamly under the various Circumſtances of Culture: they will be ſometimes three, four, or five. There riſe no Styles from thoſe, but each is crown'd with a flatted, oblong, obtuſe, colour'd Head.

The Filaments being traced to their Origin, are found to riſe from the Receptacle: this makes the Plant one of the *Polyandria* of LINNÆUS: and as the natural Number of the Rudiments, with their Styles is two, it muſt be placed among the *Digynia*.

Culture of this PIONY.

The practical Gardener needs not be told the Piony is a Plant that needs little of his Care to raiſe it: but as we have ſaid on many other Occaſions, there is a Way by allowing it a little more than the common Attention, to bring it to a great deal more than the common Beauty.

It is a Native of many Parts of *Europe* and the *Eaſt*; and naturally loves a deep, light Mould, and Shelter. It is found in greateſt Perfection, toward the Edges of Foreſts, and on the Sides of Hills near Springs. This muſt be the judicious Gardener's Rule for its Culture.

It will no where flower ſo well, or continue ſo long in Beauty as under ſhade, and where there is ſome Moiſture. This it has from Nature, and this is a great Advantage. There are ſuch Places in all Gardens; and few Things will grow in them: therefore let the firſt Care be to fix upon ſuch a Spot. No Compoſt is required, only let the common Mould of the Border be well dug up two Spades Depth.

In the third Week in *Auguſt*, let ſome of the Off-ſets be taken from the Root of a thriveing Plant; and let them be large, and furniſh'd with good Buds.

Plant four of theſe in the Bed at a Yard Diſtance from one another.

As ſoon as this is done, ſow on the ſame Spot ſome Seeds ſaved from a fine ſtrong Plant, with large ſingle Flowers.

Theſe will ſhoot the ſucceeding Spring; and may be kept upon the Bed till they are of a Growth to tranſplant. Theſe ſhould then be removed into a like Situation and Soil in the Nurſery; and kept there till they flower. Some will have double Flowers, and the fineſt of theſe ſhould be kept to ſupply the Place of the old Roots.

They muſt be planted at the ſame Diſtance of a Yard aſunder, and treated in the ſame Manner as the others. Common Garden Mould is to be the Soil, but it muſt be chang'd every Year. The Seaſon for this is the End of *Auguſt*; and at that Time the Off-ſets ſhould be removed.

If this be done every Year as it ought, to keep the old Plants in their Beauty, the Off-ſets will be ſmall. They ſhould be planted out into a Nurſery Bed till they are of a due Bigneſs for flowering with Strength, and they muſt then be planted in various Parts of the Garden, obſerveing to put them where there is ſome Shade.

The old Root being thus clear'd of its Off-ſets annually, and refreſh'd with new Mould, will continue to flower in full Glory.

7. FLESHY LATE FRITILLARY.

Pl. 38. Fig. 7. We have told the Gardener there were yet ſome late Kinds of Fritillary to come under his Notice; and there is not among them a more elegant one than the preſent.

It is a ſeedling Variety from the common purple Kind, and inherits and improves all its Excellences.

The Root is moderately large, and has many Fibres.

The Leaves are of a deep green, long, narrow, obtuſe, hollow'd, and of a fleſhy Subſtance.

The Stalk is ten Inches high, purpliſh at the Baſe upwards, of a pale green, and tolerably firm.

The Leaves on this ſtand all alternately, and at Diſtances; they reſemble thoſe from the Root, but that they are ſmaller; and their Ends are often purpliſh.

One Flower hangs from the Top of the Stalk; and this is large, and of the moſt perfect Shape: hollow'd as a Cup, rounded at the Baſe; and form'd of ſix Petals, which ſtand very regularly, and turn in their Points at firſt, but have them perfectly ſtrait when the Flower is full blown.

Three or four of the upper Leaves uſually riſe perpendicularly over the Flower, and are of a freſher green than the others; theſe add greatly to the Beauty of the Plant.

The Colouring of the Flower has a Delicacy and Variety that no other of the Fritillary Kind exceeds, and few can be ſaid to equal.

The Chequering is not formally regular, but it is very pleaſing.

The ground Colour of the Flower is a delicate fleſhy Hue; there runs down the Middle of each Petal a broad Rib of Olive, and the Spots are of a Lemon Colour: they have ſomething of the ſquare Shape, that makes the Chequer-work in the other Kinds; and they are diſpoſed in ſuch a Manner as to favour it, but there is not the Exactneſs as in many others.

The Characters are the ſame in this as in the other Fritillaries, and its Claſs that of the *Hexandria*, the ſixth in the LINNÆAN Syſtem.

Its Culture in nothing differs from that of the other Fritillaries: this has been deliver'd at large in a preceding Number, and therefore needs not be repeated here.

It will be occaſionally found among the Plants raiſed from Seeds of the common purple Fritillary; and whenever it is ſeen, ſhould be mark'd for a particular Bed.

The Beauty of theſe late Fritillaries is loſt when they are planted promiſcuouſly among the others; for they do not come into flower till the reſt are decay'd, and the Beds are no longer examin'd: to ſhew this in its Beauty, and preſerve it in that Perfection for the utmoſt Time theſe frail Elegancies can laſt, this Method is to be obſerved.

Let a particular Bed be prepared for them in a Part of the Garden where the Sun does not come, except till about Ten in the Morning.

Let this be made up with the ſame Compoſt we directed for the other Fritillaries; and let this, with thoſe other Kinds we have particularized for their late flowering, be planted in it at a Foot Diſtance.

Let them have leſs Water than the other Kinds; but let the Bed be kept conſtantly weeded, and the Surface be once in ten Days broke with a Trowel. This will diſpoſe it to retain the Dews, and nothing more is required.

The Plants, with the ſame Management as the other Fritillaries, in all other Reſpects, will afford a pleaſing and ſurpriſing Shew, at a Time when they have paſſed their Bloom; and being thus preſerved from the Noon-day Sun, they will continue in flower much longer than thoſe which in the common Way come in much earlier.

Pl. 38.

1
European Trollius.
2
The Flaming Tulip.
3
The Pearl & Purple Tulip.
4
Yellow Moly.
5
lter nate flowerd
adiolus.
6
Great Crimson Piony.
7
Fleshy late Fritillary.

CHAP. II.

The Management of the Flower-Garden, for this Week.

THE Seaſon is now come for propagating thoſe fibrous rooted Flowers which ſucceed by Layers; and let the Gardener begin with his Pinks and Carnations.

The Method of raiſing the Carnation in its higheſt Perfection; and of obtaining new Flowers, is from Seed: this we ſhall deliver at large when we treat of ſome of the fineſt Kinds in a ſucceeding Number: here we give the Way of encreaſing the Plants which are worthy that Care, by the much eaſier Method of laying.

It is the Nature of the Carnation to ſend out from the Head of the Root many oblique Shoots. As ſoon as theſe are long enough to bear laying, that ſhould be done; for always the younger the Shoot the better it roots: they are in favourable Seaſons fit for the Purpoſe about this Time; in others, a Week or two longer does the Buſineſs.

Provide for this Service a Quantity of rich Garden Mould, a Penknife with a ſharp and thin Point; and ſeveral little hooked Pegs, or forked Sticks. Let every thing be in Readineſs, and the Work will go on pleaſantly.

Clear away any Filth that may lie about the Plant; then ſtir the Surface of the Mould; and lay on as much of the freſh as will raiſe it about three Quarters of an Inch, more or leſs, according to the Length and Manner of Growth in the Shoot.

The Deſign of this is, that the Mould may riſe conveniently to the Shoots; and there may be no Violence in bringing them down: for this is often the Occaſion of their ſlipping off; and if that be not the Caſe, the Juices do not flow freely where the Shoot is put too much out of its natural Direction.

This done, clean the Shoots, and prepare them one by one for laying: fix upon a ſtrong Joint, about the middle Part of the Shoot, and with the Penknife ſlit it from that Joint two-thirds of the Space toward the next.

Then pull off the lower Leaves; and cut off the Tops of thoſe at the Head of the Shoot; cut two or three gaſhes lightly in the Joint, below the Slit; and then open the Mould to receive the Layer. Preſs it down gently and gradually at the Joint, and make the Top riſe as upright as may be: only in this let Patience rather be uſed, than Violence at once. See that the Slit be open when the Shoot is thus got into a right Poſition; and then faſten it down with one of the little Sticks prepared for that Purpoſe.

This done, cover up the Body of the Shoot with the Mould; and when all are laid that belong to one Root, in this Manner, give them a gentle Watering.

Look to the Layers after this every other Day to ſee they all keep in their due Place; and as often as the Mould grows dry, give them a gentle Watering. See that the Mould is not waſh'd off in this; and if any ſuch Thing happen, bring on other Mould in the Place. In this Manner let them be manag'd till the laſt Week in *Auguſt*, and they will then be in a fit Condition for tranſplanting.

This being a kind of middle Seaſon between the Spring, and the late Summer and autumnal Flowers, the Gardener ſhould go the whole Round of his Borders with a careful Eye to take off the uſeleſs Growths, and ſecure the others.

The Stalks of all thoſe Spring Plants which have done flowering, muſt be cut down near the Ground, and ſome Mould drawn up over the Stumps.

We have told the Gardener what Roots he is to take up, and preſerve for planting at another Seaſon; they are the bulbous, and ſome of the tuberous Kinds; we ſpeak here of ſuch as do not require that Management.

This done, and the Borders thus far clear'd, let him cut ſome Sticks of different Lengths; and take ſome green worſted in his Hand, and tie up the Stalks of all thoſe Plants which are to come into flower in the ſucceeding Months.

Few know how much the full Beauty of theſe Flowers depends upon this Management. The Wind will often break off their Stalks at the Head of the Root; or at leaſt crack and wound them there ſo, that they will ſtand awkwardly, and be irregularly ſupply'd afterwards with Nouriſhment.

In this Caſe, tho' the Damage itſelf is not ſeen, its Effects are very viſible: the Plant does not take its regular or proper Growth; and the Flowers are poor.

When the Stalk is too ſtrong to break in this Manner, the Effect is worſe, the Root is drawn backward and forward, as the Plant rocks about; and being looſen'd in the Ground, it can afford but a poor Quantity of Nouriſhment to the Stem. The Leaves thus loſe their Freſhneſs, which is their great Beauty, and the Flowers are poor.

The firſt Froſts in Autumn alſo deſtroy the Plant; for the opening at the Foot of the Stalk by its rocking about, lets in their Influence.

All this Damage is prevented by tying up the Plants at this Seaſon. Let the Sticks be longer than each is high at preſent; and let the Stalk be ty'd up in ſeveral Places.

Let ſome Mould after this be drawn up about the Head of the Root; and the dead Leaves, if there

June. there be any, pick'd away. Thus they will be ſecured for flowering well.

The Sticks muſt be no higher than will ſerve for the laſt tying when the Plants have their full Growth; and thus the Flowers and ſome Leaves riſing above it, no part either of that or of the tying will be ſeen.

Let the Roots of ſuch of the bulbous and tuberous Spring Flowers as have their Leaves now decay'd, be taken up, clean'd, and laid on a Mat to harden for putting up till the Time of planting: the decaying of the Leaves is the Gardeners Notice for doing this, and he will find that Signal now remind him of it in many of the Ranunculus's, Anemones, and Tulips. June.

SECT. II.

The Management of the NURSERY, *for this Week.*

WE have directed the ſowing in *April*, the Seeds of ſeveral of the fibrous rooted perennial Plants: Wall-flowers, Fox-gloves, Sweet-williams, Hedyſarums, and many other Kinds, ſucceed extremely well in that Management. Theſe will now be grown to a proper Size for tranſplanting.

A Piece of Ground in ſome Part of the Nurſery, that is not too much expoſed to the Noon-day Sun, muſt be ſelected for this Purpoſe; and divided into as many Beds as there are Kinds of Flower Plants, which want this Management.

Let Lines be drawn lengthways and acroſs of theſe, at different Diſtances, according to the Growth and natural Bigneſs of the Plants, and let them be removed each into its ſeparate Piece in a cloudy Evening.

They muſt be water'd carefully till they have taken good root; and then kept free from Weeds till the Beginning of *October*, which is the Time for bringing them into the Places where they are to flower.

Continue the planting Cuttings of ſuch hardy Kinds as will ſucceed this way, in the open Ground.

This Week is a very good Time for planting thus the ſeveral Kinds of Lychnidea's, the Star-worts, and Double Sweet-williams.

The Ground muſt be well dug; the Cuttings put in with Caution, and they muſt be water'd at Times, and ſhaded from the Noon-day Sun.

A great deal of Care muſt be now taken of the Trees planted out in Spring; and of thoſe yet in their Seed-beds: Heat and Drought are comeing on, and they are deſtructive to both.

The Seedlings in their Beds muſt be often water'd; and if the Spot be ſo much open to the Sun that they flag, notwithſtanding the Waterings, they muſt be defended by a Reed-hedge.

Frequent Waterings will be required for thoſe which have been tranſplanted; and for ſuch as are of more Growth, it will be neceſſary to lay ſome Turf, as we have before directed on other Occaſions, with the Graſs-ſide downwards all about them, and give the Waterings through it.

Several of the hardy Exotick Trees may be, with good Management, laid this Week for an Encreaſe. The great Caution is in the Choice of the Branches for this Purpoſe. If they do not take tolerable root before Winter, they will be very likely to fail; and this rooting in time will depend partly upon the Choice of young Branches; and partly in their being well cover'd, and frequently water'd.

It is an Obſervation that holds good throughout all theſe Kinds, that the youngeſt Shoots will ſtrike root the moſt readily. Therefore let ſuch be choſen; and as the Summer is a drying Seaſon, let the Part that is laid in be covered deeper with Mould than uſual, and often water'd.

They muſt be faſten'd down in their Place to promote their taking root; and in thoſe Kinds which require moſt Moiſture (which is declared under their particular Heads) the Place ſhould be cover'd with ſome of the ſame kind of Turf before hand.

This Week let the careful Gardener go over all his Evergreens, with his Knife, reducing the rude Growth of Branches. Whatever Form they are intended to be raiſed to, their Stems muſt be cover'd; and this can only be done by taking off the luxuriant Growth of the young Branches.

Nature is ſtrong in theſe; and when the End of a Shoot is cut off, there riſe in its Place Numbers from the Sides; theſe cover the Body, which would be ſeen through every Opening of the others.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THIS Week let ſome of the Apricots that come in later than the Maſculine, be inoculated; and the earlieſt of the Peaches. The Method we have given already, and need only caution the Gardener to be obſervant and careful in every little Article; for upon this the Succeſs wholly depends.

Let him look to the new-planted Trees, which we order'd to be ſecur'd by Stakes, and thoſe againſt Walls and Eſpaliers, by Nailing. If they rock about now they will ſoon be deſtroy'd, for there is no Seaſon at which they can leſs bear it.

Let the new Shoots of Wall and Eſpalier Trees, that grow properly, be faſten'd down in different Places as they encreaſe in Length, and the Stakes and Tyeing be kept ſecure and firm in the others. Let them have a little Mould carefully drawn up about their Stems; and from Time to Time, according to the Drought of the ſucceeding Seaſon, let them be water'd, and all the Caution us'd for their Safety that we have directed for thoſe in the Nurſery, which are in a like Condition.

The Berberry Buſh, which has now ſhewn the full Beauty of its Flowers, will be ſet for Fruit; and this is a Time when the Gardener may, by a little Aſſiſtance, greatly improve its Bigneſs, Colour and Flavour. This is a Seaſon when the Tree requires more than ordinary Nouriſhment; and yet, in the uſual Way of Management, nothing is at this Time done.

If the Ground be over-run with Weeds, they will drain too much of the Nouriſhment which ſhould go to the new Fruit; if the Trees be too cloſe they will ſtarve one another; and if the Seaſon prove dry, and the Earth be hard, their Roots will be able to take in very little Juice, at a Time that they require moſt of all. Theſe Accidents uſually all happen; the ſecond from an Error in the Gardener's Judgment, and the others from his Neglect.

If the Fruit be ſupply'd well with Nouriſhment at this Time, the Bunches will be full, ſcarce any will fail, and all will have a fine Colour and Flavour, otherwiſe they are too often wanting in all theſe Particulars.

To have fine Berberries, the Shrubs ſhould not be planted in Wilderneſs Quarters, or Hedges; or too cloſe to one another, or to any other Trees: they ſhould have a Piece of Ground dug purpoſely for them; they ſhould be planted four Yards aſunder; and have all the Attention of other Fruit-Trees.

The Soil ſhould be loamy and ſtrong, and it ſhould be dug up Two-ſpade deep before they are planted. The Shrubs ſhould be rais'd from Layers, and theſe ſhould be laid from well eſtabliſh'd Trees, which bear the Fruit without Kernels. This is a great Advantage in the Berberry, and is not to be obtain'd with tolerable Certainty any Way beſide.

The Layers will be fit to take up in one Year, and ſhould then be planted in a Nurſery, to ſtand two more. At the End of this Time the Ground muſt be dug up for them, as we have directed, and the young Trees planted: and they muſt have the common Care of watering and defending them till rooted, which we have directed for other Trees.

After this, they will ſoon be in a Condition of bearing Fruit; and both in the Seaſon of its Ripeneſs, and the earlier Period of their Flowering, they will afford a moſt pleaſing Object.

In the Nurſery they muſt be train'd up with a ſingle and ſtrait Stem, and the ſame Form muſt be preſerv'd in this Plantation. At about a Yard from the Ground the Branches ſhould be ſuffered to riſe, and there may very well be allow'd about ſix of theſe in this Place. From this Part the Stem ſhould be kept clear to fourteen Inches higher, and it ſhould be preſerv'd upright, by Means of a Stake.

At this Diſtance of fourteen Inches, more Branches may be ſuffered to grow for bearing; and the Number may be here about eight: a Foot above this the Top muſt be taken off, and there will ſo riſe more Branches, ſix, eight, or ten of which, according to their Growth, may be ſuffer'd to remain on; and the ſtraiteſt and moſt upright of them may be ty'd up to the Stake, and cut off at fourteen Inches more, for a new Supply.

In this Way the Tree may very well be carry'd up to the Height of nine Foot; and having about ſix Series of Branches in this Compaſs, it will produce a vaſt deal of bearing Wood, and will make a very pleaſing Figure.

A Plantation of ten or a dozen of theſe Trees, when in Flower or Fruit, will be extremely ornamental; and the Fruit they will yield by this and the ſucceeding Management, will ſo much exceed what is commonly rais'd, that thoſe who have not before taſted the Berberry in Perfection, will not eaſily believe it to be the ſame Thing.

There are white-fruited Berberry Buſhes as well as red; and it will be very agreeable to plant about one in four of that Kind; for the Mixture of white and red will have a pleaſing Effect both on the Ground and at the Table.

It will be adviſeable to raiſe in the Nurſery more Layers than are intended for this Plantation, that ſuch as have Stones in the Fruit may be rejected. The Want of theſe Stones, which are the Seeds of the Tree, is a great Recommendation to the Fruit; but it is a Thing quite accidental in the Original, and therefore not certain in the new Trees.

The Berberry may be propagated by Sowing, or by Suckers, but in both thoſe Ways the Fruit is more apt to have Kernels: this Way by Layers is vaſtly more like to have Succeſs; but it is not certain in every Layer.

The Trees being thus rais'd and train'd, muſt be prun'd every Autumn. The Branches muſt not be ſhorten'd at their Ends, for the Fruit is produc'd in thoſe Parts; but all that is to be done, is to keep the whole free from dead Wood, and in proper Order.

If any two Branches croſs one another, one muſt be cut away; any decay'd Pieces muſt be taken out; and no Shoots ſuffered about the Stem, between the Places where the bearing Branches riſe.

This is the Management for Autumn, and thus the Shrubs are to remain till Spring. Then let the Gardener go over the Tree with a careful Eye, and where he ſees any of the bearing Branches weak at the Ends, let him take off a ſmall Piece: this will give Strength to the reſt, and fill the Fruit.

This done thro' the whole Plantation, let him take away all Suckers from the Roots, and rub off all Moſs or other Foulneſs from the Trunk; then let the Ground between them be well dug up with the three-prong'd Fork, intended for the ſame Uſe in Regard to other Fruit-Trees.

Once in a Month, from that Time to the preſent, let the Ground be hoed; and at this Time let it have another thorough Turning with the three-prong'd Fork. After the Mould is thus looſen'd, let it have three or four good Waterings, at three Days Diſtance. This will fill the young Fruit; and the Sun and Air, according to the Management we have directed, paſſing freely between the Trees and their Branches, they will ripen favourably, and with an excellent Flavour.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

A Crop of Cabbages and Savoys, intended for Winter Service, will now be in a Condition to tranſplant.

Chuſe for this Purpoſe, an open Piece of Ground, far from Trees or Hedges, for Caterpillars breed among the Leaves of theſe; and the Butterflies, that produce thoſe Devourers, frequent ſuch Places more than open Ground. No Danger to theſe Plants is ſo great as that of the *Auguſt* Caterpillar; and this Way, by being at a Diſtance from Trees, they will have a double Chance to eſcape them.

Let the Ground be dug up a full Spade deep, and well broken; and the Plants of each Kind ſet at a Yard Diſtance. Let the Mould be clos'd about their Stems, and a moderate Watering allow'd them every Evening till they are thoroughly rooted.

The Practice of moſt Gardeners is to plant them much nearer than this; and to raiſe other Crops upon the ſame Ground. This is alſo directed by thoſe who undertake to teach them; but it is this which ſpoils the Plants.

A good Soil, at the Diſtance we have allow'd, with no other Crop nor Weed between, is barely ſufficient to fill theſe large Plants with their abundant and rich Juices.

Let them be ſet in regular Lines, at this Diſtance, lengthway and a-croſs of the Ground; and there will ſo be Alleys every Way between.

Once in a Fortnight let theſe be dug up with a Spade, and the Mould well broken; and by that Means the Plants will have all the Nouriſhment ſo much Ground can ſupply; they will thus riſe to their full Perfection, and the Labour will not be grudg'd.

This Week let the Gardener fill up the Alleys between the Ridges of Melons. The beſt Mixture I have found for this Purpoſe, is three Parts of ſtrong Paſture-Earth, and one Part well rotted Cow-dung: about a Peck of coarſe Sand will be proper to a Barrow of this, for the Sake of mixing the other Ingredients; and this ſhould be laid carefully in, and well trod down. It will keep the Plants in good Condition all the ſucceeding Growth.

The Cos Lettuce is now in its full Perfection, and Care ſhould be taken to keep it ſo.

Let thoſe which are in Condition for Gathering, be taken up from Time to Time, leaving Spaces, as regularly as can be done, between the others: let them be ty'd up lightly at the Top as they are preparing for Cabbaging, and the Ground hoed, every three Days, between them. Every Evening let them have ſome Water, but at no Time too much; and if the Bed be expos'd to the full Noon-day Sun, let a Reed-Hedge be rais'd againſt it, from Eleven to Three. In this Way the Cos Lettuce attains its full Perfection.

While the Table is thus from Day to Day ſupply'd from this Bed, let ſome Plants be mark'd for Seed. Let theſe be the largeſt, firmeſt, and fineſt of the whole Growth; and let a Stick be fix'd by each of theſe, to tye up the Stalk as it riſes. Let the others be clear'd away from about theſe as ſoon as may be, after they are mark'd; and let the Ripening of their Seeds be favour'd by all poſſible Means; breaking the Ground round about them, and frequently watering them.

Chuſe an open Spot for tranſplanting a good Crop of the Seedling Endive. Let it be well dug up, and the Surface levell'd, and rak'd clear from Stones. Then draw Lines upon it, at fifteen Inches aſunder, and the ſame a contrary Way, and plant the Endive out at this Diſtance.

Cloſe the Mould about the young Plants, for this is a dry Seaſon, and allow two or three careful Waterings in Evenings, or more, if the Plants are not rooted by that Time.

After this, let the Ground be kept clear from Weeds, by frequent and good Hoeing; and if the Plants flag with the ſucceeding hot Weather, and Want of Showers, the Gardener will find it very well worth his while to water them. Once in four Days will be ſufficient for this Purpoſe; and they will thus get Strength and a due Bigneſs, and will be ready for blanching to the utmoſt Perfection.

E D E N:

A
COMPLEAT BODY of GARDENING.

NUMBER XXXIX.
For the Middle of *JUNE.*

SECTION I.
FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.
Curious Plants and Flowers now in their Perfection.

1. IMPERIAL MARTAGON.

June. Pl. 39. Fig. 1. June.

THIS is a very elegant and noble Plant: known from the earlieſt Time, and always a Favourite with thoſe who cultivated Flowers. Its Beauty will continue to recommend it, and there is a Merit in its eaſy Culture.

All the Writers on Plants have nam'd it. They have call'd it in general, *Martagon*, and *Martagon latifolium*, the broad-leav'd *Martagon.* Some, after LOBEL, *Hemerocallis*; and the more Correct, *Lilium Martagon*, and *Lilium floribus reflexis:* the *Martagon Lilly*, or the Lilly with reflex Flowers.

LINNÆUS joins it to the Lilly, with whoſe Characters it perfectly agrees; and adds, as the Diſtinction of the Species, *foliis verticillatis, floribus reflexis, corollis revolutis:* Verticillate-leav'd Lilly, with the Flower turn'd down, and their Petals bending up again.

The Root is roundiſh, ſmall, yellow, and form'd of numerous pointed Scales.

The Stalk is upright, firm, round, of a purpliſh Colour, and two Foot and a half high: toward the Top it is a little hairy, and ſometimes all the Way.

The Leaves are ſhort, broad, and of a deep green; ſmall at the Baſe, and vein'd with conſpicuous Ribs on the under Side. They grow in regular Cluſters, at certain Diſtances, ſurrounding the Stalk in the Manner of Rays from a Star. This is call'd the verticillate Diſpoſition. Toward the Top there ſtand a few looſe ſcatter'd Leaves, which are longer and narrower than the others.

The Flowers are very beautiful, they crown the Stalk in great Numbers, and riſe one above another, in a kind of pyramidal Form. They are large, and of a pale Red, ſpotted with a deeper, Blood-Red or Purple, in a various and irregular Manner, but very pleaſing.

Each Flower has its ſeparate Footſtalk, and hangs down; but every Petal turns up again. The whole Head of theſe is very numerous, and their Smell a delicate and roſy Sweet.

The Flower ſtands naked on the Footſtalk, and is form'd of ſix Petals, riſing from a ſmall bell-ſhap'd Baſe: they are oblong, and have thick fleſhy Points; and at the Baſe of each there runs a longitudinal Line, which is the Nectarium of the Flower.

In the Centre riſe ſix Filaments, on which are plac'd ſo many oblong incumbent Buttons; and in the Midſt of theſe is an oblong cylindric Rudiment of a Seed-veſſel, from which runs a ſingle oblong Style, crown'd with a thick triangular Head. The Seed-veſſel which follows, is oblong, and mark'd with ſix Furrows, and has a hollow three-corner'd Top, with the Angles obtuſe: it contains three Cells, and is form'd of three Valves. The Seeds are very numerous; they lie in a double Row in each Cell, and they are flatted and rounded on the outer Part.

The ſix Threads and ſingle Style very plainly declare the Place of the Plant to be among the *Hexandria Monogynia.*

Culture of this MARTAGON.

It is a Native of the Northern Parts of *Europe*, where it thrives beſt in a deep light Earth, about the Edges of Foreſts. This may give the Gardener its Rule of Culture.

No particular Care can be needful for preſerving a Plant which Nature leaves to takes its Chance in *Hungary* and *Swiſſerland*; and there can be no more Difficulty in mixing a proper Compoſt.

A Buſhel of Pond-Mud, two Buſhels of rich Paſture-Mould, half a Buſhel of Wood-Pile Earth, and a Peck of Sand, will make an excellent Soil for it. Theſe ſhould be mix'd in Spring, and two or three Times turn'd, between that Seaſon and *July*; when it will be proper to plant the Off-ſets from the Roots.

Theſe are to be taken off when the Stalks are decay'd, and they muſt be planted immediately. Let a Part of the Garden be choſen where there is the Morning Sun and ſome Shade, and let the Compoſt be put in the Place of the common Mould. Let the Off-ſets be planted at two Foot Diſtance, and afterwards kept clear from Weeds, and occaſionally water'd.

This is the common Method of Culture, and the Gardener in the uſual Courſe of his Buſineſs thinks of nothing more; but there is a great Advantage in raiſing the Plant from Seed. The Flowers will be larger, and more elegantly ſpotted, when all is manag'd with due Care this Way, and often there will riſe Varieties beyond Thought. The Method is this:

Save the Seeds from a ſtrong and healthy Plant, and ſow them on a Bed of the ſame Compoſt, in a Part of the Seminary open to the Morning Sun, for two Hours, but ſhelter'd from its Rays during the reſt of the Day.

The beſt Time for ſowing them is the Middle of *Auguſt*: they muſt be ſcattered thick upon the Mould, and covered a Finger's Breadth with the ſame Compoſt ſifted over them.

From this Time the Bed is to be kept clear from Weeds, and ſometimes ſlightly water'd.

In the ſucceeding Spring they will ſhoot; and the young Plants, when they have a little Growth, muſt be thin'd where they have riſen too cloſe.

Let the Bed be kept clear from Weeds; and when the Leaves of the young Plants are decay'd, let them be cover'd with half an Inch of freſh Mould.

Thus let them be manag'd till the ſucceeding *Auguſt*, and then let the Mould be ſifted; the Roots taken carefully out, and planted in the Garden, in a new Bed of the ſame Compoſt, a little more expos'd to the Sun, but ſtill ſhaded from the full Blaze of Noon.

They ſhould be planted in this Bed at a Foot Diſtance, and there manag'd as before; weeding and watering till they flower.

There will be found a great many Varieties; and the beſt ſhould be mark'd while in flower. Theſe muſt be preſerv'd ſeparate afterwards, and the reſt planted out into common Borders. The Varieties conſiſt in three Particulars:

1. In the Ground Colour of the Flower, which will be fleſhy, Crimſon, or pale Purple.

2. In the Tinct of the Spots, which will be of a deep Orange, Blood Colour, or a Violet Purple, or almoſt Black: and,

3. In their Diſtribution and Form: ſome will be round, others oblong; and they will throw themſelves into various wild Arrangements.

Dr. MARTYN, from the Forms into which theſe Spots ſometimes caſt themſelves, ſuppoſes the *Martagon* to be the famous *Hyacinth* of the old Poets, mark'd, as they ſay, with the Letters A I.

OVID, indeed, deſcribes the Flower as being like a Lilly, and Red, and thus far the *Martagon* very well agrees with it: and if the Spots do indeed ever form themſelves in the Flower, as they are repreſented in that Author's Figure, there is no Reaſon to doubt its being the Plant. In general, their Diſpoſition is perfectly wild and free.

When the fineſt Flowers have been ſeparated from the reſt, their Roots muſt be taken up as ſoon as the Stalk is decay'd, and planted again immediately in freſh Compoſt of the ſame Kind, at two Foot Diſtance.

This muſt be done every Year; the Off-ſets muſt be every Time carefully taken off, and the old Compoſt clear'd away.

The third Year of their Flowering, let Seeds be ſav'd from one of the fineſt Plants, and theſe ſown, and the Plants manag'd, juſt as directed for the firſt: thus there will be an Improvement upon the firſt; and the ſame Method being ſtill purſu'd, of ſowing from the fineſt Flowers, the *Martagon*, which was improv'd the firſt Time, will, by the third or fourth Proceſs, exceed the Gardener's Imagination. One Thing I have obſerved ſingular in this Caſe; as the Flower is thus rendered more beautiful, the Scent grows fainter.

2. DOUBLE STARRY COLUMBINE.

Pl 39. Fig. 2. This is another of thoſe Flowers which bear our Winters in the common Ground; and need no particular Care or Attention to preſerve them: 'tis therefore valuable, as well as for its Beauty.

The Gardeners have long known it, and the Generality of thoſe who have written on Flowers, have mention'd it. They all agree in giving it the true Name *Columbine* (ſo much the Form of the Plant and general Aſpect of the Flower demands) altho' it does not preſerve the common Character, which is the *hooked Nectaria*, from whence the Plant obtain'd its original Name.

Some of the old Writers have hence call'd it *Aquilegia degener*, the degenerate Columbine; but that is a Name too mean for ſo elegant a Variety. Others have more properly call'd it the Roſy or the Starry Columbine, *Aquilegia roſea*, and *Aquilegia ſtellaris*: others, *Aquilegia flore roſeo multiplici*; and John Bauhine, moſt diſtinctly of all, *Aquilegia flore ſimplici & pleno non corniculato*: the ſingle and double Columbine, without Horns to the Flower. This Term Horn, has been given to the Nectaria, and the Name therefore is expreſſive.

With all this Singularity of Aſpect, the Plant is no more than a Creature of Accident, and the Gardener's Induſtry; a Variety of the common Columbine. This Ray obſerv'd; who found ſometimes on the ſame Plant theſe Flowers, and others of the uſual Form: and this Linnæus confirms: he refers the Plant to the common Columbine, which, in its plain and original State, he calls *Aquilegia nectariis incurvis*: the Columbine with crooked Nectaria.

The Root is large, whitiſh, long, and thick, divided into many Parts, hung with long Fibres, and of many Years Duration.

The Stalk is a Yard high, ſlight, upright, branched, reddiſh, and a little hairy.

The Leaves are large, but compos'd of many Parts; theſe are diſpos'd in Three's, on branched Footſtalks, and the principal of them are divided ſlightly into three Lobes, by Indentings. Their Colour is a faint, blueiſh, or greyiſh Green.

The Flowers are numerous, large, and beautiful: they are altogether unlike the common Columbine, from which they are derived, and have the Aſpect of common double Flowers. They are compos'd of a great Number of plain oblong Petals, and theſe ſpread themſelves out in a radiated or ſtarry Form: the outer ones being largeſt, and thoſe within ſmaller to the Centre.

Their Colour, when moſt perfect, is of a fine high Scarlet; but from this it varies in ſome Plants into a faint yet not unpleaſing Red; in others, it runs thro' all the Changes of Blue, Purple, and Fleſh Colour, even to abſolute White; and in ſome Flowers there will be a very agreeable Mixture of Green.

All theſe Colours will be obtain'd from the Seed of one Plant, therefore they are palpably no more than ſeminal Varieties; and beſide theſe, there will be from the ſame Seeds alſo great Variety of Form. This, excluding the Flowers of the common Structure, may be reduced to three Kinds; The ſingle Starry Columbine, the double Starry, and the Roſe.

The ſingle Starry Kind has a plain Flower, compos'd of a few flat Petals: the double Starry is that we have repreſented in the annexed Plate; the Petals of which are very numerous, yet plac'd in the Form of Rays, diſtinct from one another; and the Roſe Columbine is that in which the numerous Petals form an entire round Flower without theſe Diviſions.

Of all theſe Kinds, there are Red, Blue, and White. The Terms have been us'd indiſtinctly; but though the Names only of ſo many Varieties, they may be us'd thus determinately.

It would be vain for the Student to ſeek the Claſs of the Columbine in this ſingular State of the Plant. We have obſerv'd, that the Parts on which theſe Characters depend, are commonly obliterated in double Flowers; and they are more than uſually confus'd and loſt in this irregular as well as full Flower.

That he may know the Place of every Plant in the Linnæan Syſtem, and be able to refer all Varieties, thro' their proper Species, and Genera, to the true Claſs, let him always, in theſe Caſes, refer to the uſual or natural State of the Flower.

Let him take off one from the common blue Columbine, from whence this Variety is rais'd, and he will find in it enough of Singularity. It has no Cup; but 'tis compos'd of five Petals, and as many Nectaria; very ſingular and very conſpicuous.

The Petals are oblong, plain, and equal in Size, and they are regularly ſpread open.

The Nectaria ſtand alternate with the Petals: they are long, hollow, ſlender, wideſt toward the Mouth, and ſhap'd like Horns.

The Mouth opens obliquely, aſcending on the Outſide, and adhering to the Receptacle of the inner Verge. The tubular Part is long and pendulous, and has an obtuſe bent Top.

In the Centre riſe a vaſt Number of ſlender Filaments, crown'd with oblong upright Buttons. The outer Filaments are ſhorter than the inner, and the Buttons are equal in Length to the Nectaria.

In the Midſt of theſe are plac'd five Rudiments of Seed-veſſels, of an oval Form, but oblong, and from theſe riſe ſo many Styles; ſmalleſt toward the Top, and crown'd with upright ſimple Heads. About and between theſe Rudiments are plac'd ten ſcaly Subſtances, which defend them from Injuries, and ſeparate them from one another.

The Seed-veſſels after every Flower, are five: they are ſtrait, cylindrick, pointed, and plac'd parallel, they are form'd of one Valve, and they burſt inwards. In each are numerous, oval, hollow'd Seeds, fix'd to the Suture where the Seed-veſſel burſts.

The Student will not wonder that in the ruder Days of the Science, thoſe who wrote on it were ſtrangely perplex'd about a Flower conſiſting of ſuch ſingular, various, and irregular Parts; but

June.

he will underſtand them when thus explain'd; and from the Filaments and Styles will eaſily find the Place of the Plant in the LINNÆAN Syſtem. He will perceive that the Filaments are fix'd to the Receptacle; and from this Inſertion, and their Number, that the Plant is one of the *Polyandria*; as alſo, from the five Styles, that it is one of the *Pentagynia*, the fifth Diviſion under that general Head.

Culture of this COLUMBINE.

We have ſhewn that this and the other Kinds of double Columbine, uſually ſeen in our Gardens, are Seedling Varieties rais'd from the common Kinds; and ſhall therefore give the Culture of them all together.

The Plant is Native of many Parts of *Europe*, ſo that it is too hardy to require any great Care in its Preſervation; but from a proper Culture it will afford all theſe Varieties, and more; and the Gardener's Pains will be very well rewarded.

Let him make for it ſuch a Compoſt as Nature directs, light, and yet rich.

Let him mix a Barrow of the fineſt Paſture-Mould, a Buſhel of Pond-Mud, and two Pecks of rotted Cow-dung, with one Peck of River-Sand. Theſe being well wrought together, let him chuſe for the Place a Part of the Seminary which is on a riſing Poſition, and has a good deal of Shade. The Morning and the Evening Sun will be uſeful, but that of Noon deſtructive.

Here let him dig out the Mould, and in *Auguſt* put in the Compoſt ſix Inches deep.

Let him ſave Seeds from ſome ſtrong and well growing Plants of the common Columbine; and as they will be ripe in *July*, they will have lain a Fortnight upon his Shelf to harden by the Time we direct this Bed to be prepared for them. Let them be ſcattered moderately thick upon this Bed, in the Evening of a ſhowery Day. Let him ſift over them a Quarter of an Inch of dry Compoſt, and laying a Piece of Hawthorn Buſh upon the Bed, leave them ſo to Nature.

In Spring the young Plants will appear. The Weeds muſt be carefully taken up, and the Plants thin'd where they ſtand too cloſe. From this Time they muſt be often weeded, and occaſionally water'd.

When they have a Month's Growth, let him thin them again, taking up the weakeſt Plants: thoſe may be planted out upon another Piece of Ground, the others remaining undiſturb'd till the latter End of *September*; and being all that Time kept carefully weeded and water'd.

Let a Bed be prepar'd for them, at the End of *September*, in the Garden. Let the ſame Compoſt be us'd, but a Place choſen a little more open to the Sun, than that in the Nurſery.

The Plants muſt be taken with Care from the Seed-Bed, and ſet regularly in this, at two Foot Diſtance. Thus they muſt remain thro' Winter. In Spring they muſt be weeded, and the Mould ſhould be broke between them with a Trowel; and in the *June* following they will flower. There will be found among them ſome of the curious Sorts, and ſome of the common; but thoſe of the common will be very fine in their Kinds.

As ſoon as the Flowers fade, let the Stalks be cut down near the Ground, and a Covering of an Inch of freſh Compoſt thrown upon the Bed.

The next Year they will flower ſtronger; and two or three of them ſhould then be mark'd for Seed.

This ſhould be ſown in the ſame Manner as the firſt, and the Proceſs repeated every Year. Thus by Degrees, tho' not at once, the Gardener will have all the elegant Kinds.

The fine Roots muſt be preſerv'd with Care, and manag'd well, or they will degenerate. Every Autumn they muſt be taken up, and when too large, parted; and every time this is done, they muſt be allow'd new Compoſt. I have thus preſerv'd the ſame Roots flowering in full Perfection ſeveral Years.

There is little Trouble in raiſing this Plant from Seed, therefore it ſhould be conſtantly repeated. The Gardener who does this will have all the Varieties; and thoſe who have not ſeen them all, know little of the Beauty to which this common hardy Plant is capable of being brought by proper Management.

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3. VIOLET BULBOUS IRIS.

Pl. 39. Fig. 3.

This is a very elegant Plant, long known, and worthy to be always eſteem'd in our Gardens. The Luſtre of its large Flower would recommend it to this Attention, if it requir'd more Care and Pains in the Management; but it is hardy, and demands very little Trouble.

The old Writers name it; but many of them ſeparating it with ſome others which have round Roots, from the common tuberous *Iris's*, have call'd it *Xiphium*: others, who have kept the two Kinds ſeparate, have retain'd the common Name, *Iris*, tho' with the Addition of *bulboſa*; and have call'd it *Iris bulboſa purpurea*, and *cæruleo violacea*: the purple, and the violet blue bulbous *Iris*.

LINNÆUS retains the Generical Name *Iris*, in common to the bulbous and the tuberous-rooted Kinds; and adds, as the Diſtinction of this Species, *corollis imberbibus*, *foliis ſubulato-canaliculatis*, *caule brevioribus*: Beardleſs *Iris*, with Leaves hollow'd, ſmall to the Point, and ſhorter than the Stalk.

The Root is roundiſh, large, fleſhy, and cover'd with ſeveral dark Membranes.

The Leaves are hollow'd, oblong, pointed, and of a fine green, but often irregularly ſpotted on the Inſide.

The Stalk is juicy, low, ſurrounded with a few Leaves and Membranes, and naturally ſupports only one Flower. Sometimes from the Luxuriance of Culture two or three will burſt out in Succeſſion; but they are not ſo fine as when the whole Effort of Nature is for one, and all the Juices are ſent to its Nouriſhment.

This is large, and of a deep and elegant violet blue; of the ſame Form with thoſe of the common Flower-de-luce, but not bearded; and variegated with no other Colour, except a Mark of yellow toward the Extremities of the three lower Petals.

The whole Flower conſiſts of ſix; and has, as the other Iris's, the Appearance of three others, ſo that an untaught Student would count nine. Of the ſix proper Petals three are placed outward, and hang downward; three inward, and ſtand erect; and among them appear three leafy Heads of the Style, which tho' ſhorter than the reſt, look like Petals to an Eye not ſufficiently accuſtom'd to the Diſtinctions of the Science.

The Baſes of the three lower Petals are in many of the Kinds mark'd in a particular Manner by a hairy Nectarium; theſe are called bearded Flowers.

In the Place of thoſe Beards there are in this on each of the Petals three Dots, which ſerve the ſame Purpoſe, tho' without the Ornament; and the Flower is therefore called beardleſs. The ſhort Style from which the three leafy Heads riſe, ſtands in the Midſt of three Filaments, crown'd with oblong upright Buttons.

This ſhews the Plant to be one of the *Triandria Monogynia* of LINNÆUS, his third Claſs, and its firſt Section.

Culture of this IRIS.

The Root freely produces Off-ſets: by theſe the Gardener knows 'tis eaſily multiply'd, and in general his Care extends no farther: he places it in the Borders where it is wanted, not according to its natural Condition; and in Spite of this inconſiderate Treatment it flowers, and is admired; how much more will it be ſo when raiſed with due Attention.

It is a Native of *Spain*, and therefore requires, tho' not a Stove or Green-houſe, yet the warmeſt Part of our common Garden Ground; and this muſt not be too much open to the Sun: for in its wild State it loves ſhelter. The Gardener knows a Place may be warm without being Sun-burnt; ſuch a one he is to chuſe for this Iris; and if his Care proceed no farther than to the encreaſing it by Off-ſets, let him allow theſe in ſuch a Part of the Ground a proper Compoſt; and not bring them thither till they have ſtood one Seaſon in a Nurſery Bed, after being ſeparated from the old Roots, for the firſt Year they blow weakly.

The Compoſt is to be the ſame whether he content himſelf with this ſlight Culture, or raiſe his Stock from Seed.

Let him mix equal Parts of Meadow Earth and Pond Mud, and add about one fourth rotted Cow Dung; this will be a rich, and yet cool Mixture, which the Plant loves.

If he uſe Off-ſets, let them be brought in from the Nurſery ſoon after their Leaves are decay'd, and planted at eight Inches Diſtance.

Every Year after flowering let them be taken up, clean'd, and immediately planted again in freſh Compoſt of the ſame Kind; and their Off-ſets ſeparated and raiſed as before directed.

For the raiſing them from Seed let a Bed be prepared in the Nurſery well ſhelter'd from cold Winds, and from the Noon Sun, and on this filled with the Compoſt juſt directed, let the Seeds ſaved from a thriving and well flowering Plant be ſown in the laſt Week of *Auguſt*. Let them be ſcatter'd equally over the Surface, and a Fingers Breadth of the ſame Mould ſifted upon them. Lay a Piece of Hawthorn on the Bed, and keep it clear from Weeds; when the Earth dries allow a little Water; but this muſt be given with great Care not to waſh the Seeds out of the Ground.

If the Bed lie open on any part to cold Winds, plant a Reed-hedge to ſcreen it in Winter, and in hard Froſts draw a Mat over the Buſh.

Thus the Principle of Life in the Seeds will be preſerved, and they will ſhoot according to their Nature early in Spring.

Let them be thin'd if they riſe too cloſe: let all Weeds be clear'd off as ſoon as they appear, and let them be allow'd moderate Waterings. In *June* the young Leaves will fade.

Clip them off, and ſift on half an Inch of Mould; thus let them lie the Winter. Next Spring treat them as before; but in the End of *June* when their Leaves decay, take them up.

Let a larger Bed of the Compoſt be prepared in the ſame or ſome like part of the Nurſery. Sift the Mould of the Seed-Bed to get the Roots; and plant them regularly as ſoon as ſeparated in the new Bed at four Inches Diſtance. Defend them in ſevere Froſts; weed them in Spring, water them as there ſhall be Occaſion, and thus raiſe them to flower.

Mark the fineſt; and when the Leaves wither, take up the Roots of thoſe and plant them at a Foot aſunder, in ſuch a Bed as we directed for the Off-ſets in the Flower Garden. After this treat them as the Roots raiſed from Off-ſets, encreaſing them the ſame Way.

The next Year's flowering in the Nurſery Bed will ſhew which of the others are worthy to be mix'd with theſe; and they ſhould be brought in when the Leaves wither; the Garden Bed being enlarg'd to receive them. The reſt may be planted in common Places to give Variety, or to make up a Border.

Thus will many fine and gaudy Flowers be raiſed: but the choiceſt Kinds are yet to come; let the ſame Method be obſerv'd with the Seeds of ſome of the faireſt Flowers thus raiſed, and this repeated occaſionally with the fineſt Flowers from thoſe.

Thus will be produced the moſt perfect Bloom of this and the other bulbous Iris's, and no way but this; nor leſs than the Application of ſeveral Years can ſhew that Flower in the full Perfection.

4. HUNGARIAN IRIS.

Pl. 39. Fig. 4. The Student who has examin'd with us the Flower of the laſt mention'd Plant, will readily underſtand the Structure of the preſent; the principal Difference of which from that, beſide the Colour, is that it has thoſe bearded Nectaria wanting in the other upon the lower Petals.

Moſt of the Writers on Plants have named this; nor are our Gardeners unacquainted with it. They call it Many-colour'd Iris. It is one of the tuberous or common Kind, not of thoſe called *Xiphia*, or bulbous *Iris*; and it has been named from its native Country, *Iris Pannonica*; from its Colouring, *Iris lutea variegata*; and *Iris colore multiplici*; as from the Breadth of its Leaves, *Iris latifolia*.

C. Bauhine joins the three laſt Circumſtances, and thence has form'd a Name copy'd by moſt others, broad leaved *Hungarian Iris*, with a many colour'd Flower.

Theſe are not the Diſtinctions on which Linnæus form'd his ſpecifick Names. In his accurate Method he conveys a Deſcription of the Plant in its Title: this is *Iris corollis barbatis, caule ſubfolioſo, longitudine foliorum multifloro*: bearded Iris, with the Stalk of the Length of the radical Leaves, and carrying ſome ſmall Leaves and ſeveral Flowers.

The Root is thick, irregular, knotty and yellowiſh.

The Leaves are numerous, long, broad, ſharp at the Point and Edges, and of a freſh but ſomewhat blueiſh green.

The Stalk is rounded, of a pale green; upright, but with ſome little Bendings, and a Foot and half high. Toward the Ground it is often purpliſh, as are alſo the Leaves, which riſe with it from the Root.

There ſtand on this in an irregular Manner, two, three, or four ſlight Leaves; much ſmaller than thoſe from the Root, and paler.

The Flowers are large and very beautiful, one uſually terminates the Stalk; and there burſt forth others without any Regularity Sideways, a little below it.

Theſe are form'd as thoſe of the bulbous Iris juſt deſcribed; they have no Cup: three Petals ſtand upright, three droop, and there are three broad and leafy Tops to the Head of the Style, which repreſent ſo many other ſmaller.

The Colouring is extreamly various and uncertain, but always elegant.

The three upright Petals are of a fine Gold yellow, naturally plain, and elegant, only in the Purity of the Tinct, but ſometimes vein'd with a deeper Hue: the three Petals which hang down are white, variegated with Streaks and Clouds of purple or crimſon.

The bearded Part at the Baſe is yellow toward its Bottom, and whitiſh toward the End; and the three Heads of the Style are alſo variegated with yellow and white.

This is the uſual Colouring; but in different Flowers it varies extreamly. In ſome the three under Petals are altogether white; in others they are fleſh colour'd; and in others they are crimſon at the Baſe, from whence all the Rays proceed, which run in a regular Direction to the Tip of the ſame Colour. Theſe and many other Changes riſe from the Accidents of Culture; but in all the Flower is very beautiful.

The Characters of the Claſs are obvious as in the preceding Kind: three Filaments and a ſingle Style declare it one of the *Triandria Monogynia* of Linnæus, his third Claſs, and its firſt Section.

Culture of this Iris.

The common Method of propagating this is, as in the other, by the Root: as that of the bulbous Iris produces Off-ſets, this ſpreads out every Way in thick irregular Parts, and will bear to be, every Year or two, divided; and the ſeparated Parts will flower, if not too ſmall, the firſt Year.

This is ſo eaſy that few think of giving themſelves more Trouble about it: and the Plant is ſo hardy, that it grows without more Care in any Soil wherein it is planted; ſo that it is put down at random in Borders where there is a Vacancy, without regard to its Nature, or the Condition of the Place. Even this Way it flowers beautifully, but the Gardener may be aſſured more Care and Attention will bring it to greater Elegance.

Every Plant has in Nature its peculiar Soil and Expoſure in which it ſucceeds beſt; and theſe ſhould be ſtudy'd to give it full Luſtre in Gardens.

This in its Native Country before mention'd, loves a light, rich Soil, with ſome Moiſture; and though it flouriſhes in a warm Air, it does beſt where there is leaſt Sun. Therefore let a part of the Garden ſuited to this be choſen, and let the Compoſt be Paſture Earth and Pond Mud, each a Buſhel: Wood Pile Earth, and Cow Dung, of each half a Buſhel; and a Peck of Sand.

Let theſe be mix'd in Spring, and in the firſt Week of *September* thrown into the Place ſelected for the Plant.

Let the Roots be taken up and parted in a cloudy Day when there is a Probability of Showers, and immediately planted at two Foot Diſtance in this Bed. If there fall no Showers, they muſt have gentle Waterings, and they will flower unleſs too ſmall, the next Year.

The Way to raiſe the Plant in its higheſt Perfection, and to procure Flowers of more than ordinary Beauty, is to ſow the Seeds.

Theſe ſhould be gather'd from a handſome Plant, and ſown in a Nurſery Bed of the ſame Compoſt, managing them as in the former Kind; and when they come to flower, ſelecting the fineſt, and planting them in ſuch a Bed in the

Flower

June. Flower Garden; diſpoſing the reſt in leſs regarded Places.

Among theſe fine Flowers, which will ſhew a great and elegant Variety of Colouring, let the beſt be mark'd for Seed again, and that ſown with the ſame Precautions.

In this Manner will be obtain'd the fineſt Flowers the Plant is capable of producing, and theſe are then to be manag'd with the ſame kind of Care we directed for the parted Roots.

The Place in the Garden muſt be ſhady, for the full Sun deſtroys their Flowers in a few Days, which naturally are much more laſting; there muſt be Water allow'd them frequently, from the firſt Shoot of the Stalk till the Time of their flowering is paſt.

When they are in bloom they ſhould be ſhelter'd by a Reed-hedge, if the Place be open to any ſharp Wind; and the firſt Flowers muſt be cut off as they grow toward fading, that the others may open in full Perfection, and unleſs Seed be wanted let none ſtand to ripen any. June.

When Seed is required, let only the firſt Flower that opens be permitted to ripen; for the others would exhauſt the Nouriſhment, and the Seeds would be leſs perfect. Let theſe be dry'd, and ſown in the ſame Manner, and at the ſame Seaſon with thoſe of the other kind.

For the Management of the Roots nothing more is required than the allowing them freſh Compoſt every Year, and the parting them every other Year. This muſt be done in *Auguſt*, when the Flowerſtalks are quite faded, and the Leaves look pale: they muſt be immediately planted again; for all that is meant by this, is to prevent their ſpreading to ſo large a Bulk as to rob one another of the due Nouriſhment.

5. YELLOW AND WHITE JONQUILL.

Pl. 39. Fig. 5. The Gardener underſtands by what has been ſaid on a preceding Occaſion, that the *Jonquill* is properly of the *Narciſſus* Kind; and the Student in Botany will immediately diſcover the ſame Characters in the Flower. This is a very elegant and ſingular kind, and has been long known in our Gardens.

In the moſt uſual State the entire Flower is white; but in the elegant Condition wherein we repreſent it in this Place, the Mixture of white and yellow is very pleaſing.

All who have written on Flowers have named it; they call it *Narciſſus juncifolius flore albo reflexo*; and in this elegant State, *Narciſſus juncifolius calice luteo foliis reflexis albis:* Jonquill with a yellow Cup, and white Leaves to the Flower.

The Student knows what is meant by the Cup in this Flower, is the Nectarium, and he will eaſily underſtand the Name.

Linnæus joins it with the other Jonquills; and adds as their Diſtinction from the reſt of the *Narciſſus* Kind, *Spatha multiflora, nectario campanulato brevi, foliis ſubulatis:* Many-flower'd Narciſſus, with a ſhort bell-ſhap'd Nectarium, and ſubulated Leaves.

The Root is roundiſh, of the Size of a Cheſnut, and cover'd with a brown Skin; with many white Fibres from the Baſe.

The Leaves are narrow, long, hollow'd, ſtriated, and of a fine freſh green.

The Stalk is round, upright, of a pale green, and eight Inches high. On its Top are placed four or five Flowers of a whimſical Form, and very elegant Colouring.

They all riſe from one common Point at the Head of the Stalk, and each has its ſeparate long Footſtalk: their natural Poſition is drooping; and they are compoſed of a large Nectarium or Cup, and ſix Petals riſing from its Outſide toward the Baſe.

The Cup is of a faint delicate yellow, and the Petals are Milk-white.

The Colouring of the Cup is various in Degree and Form, uſually it is compleatly yellow; and that Colour is deeper in ſome Flowers, and paler in others; ſometimes the Body of it is ſo pale that it appears whitiſh, and the yellow is laid on in Streaks; and theſe will be ſometimes continued to the Petals, tho' they are naturally of a pure and perfect white.

The Flower is conſtructed as thoſe of the other *Narciſſi*. There is no Cup beſide the common Scabbard, which ſerves for the whole Bunch of Flowers, and fades ſoon after it has burſt to give them Way.

The Nectarium is of a bell-like Shape, and droops; the Petals are narrow and turn up.

Within the Nectarium riſe ſix Filaments crown'd with oblong Buttons, which are not ſeen in the natural Poſition of the Flower, becauſe not equal to the Nectarium in Length: and from the Rudiment of the Seed-veſſel which is placed under the Receptacle of the Flower, riſes a ſingle Style longer than the Filaments, and crown'd with a three-parted hollow'd, obtuſe Head.

The ſix Filaments refer the Plant to the *Hexandria* of Linnæus, that Author's ſixth Claſs; and the ſingle Style places it in the firſt Section among the *Monogynia*.

Culture of this Jonquill.

The Plant is a Native of the ſouthern Parts of *Europe*: it is found wild in moiſt, warm Places, where the Soil is deep and rich.

The common Garden Mould with an Addition of Wood-pile Earth, and rotted Cow Dung, I have found ſuit it beſt; about a Peck of each of theſe latter Ingredients ſhould be added to a Buſhel of the other: it requires natural or artificial Shade in the Heat of the Day, and in the flowering Seaſon to be often water'd.

It may be propagated by Off-ſets in the uſual Manner, but the beſt Way is to raiſe it from Seed. There will always be produced by that

June. Management, a great Variety of Flowers; and if Seed be again ſaved from the fineſt of thoſe, the Flowers will be improved almoſt without End or Limitation.

The Method of raiſing it from Seed muſt be the ſame with that uſed for the other Narciſſus's, which we have deliver'd in a preceding Number. June.

6. GREAT WHITE NARCISSUS.

Pl. 39. Fig. 6. This is a very elegant and noble Flower, hardy enough to bear the worſt Seaſons with us, and adorning our common Borders with a Blaze of ſnowy Whiteneſs that is very pleaſing.

Thoſe who have written on Flowers have all named it; and under the ſmall Variations of Colouring in the Nectarium, or as they call it, the Cup, have diſtinguiſh'd many imaginary Species. They call it, *Narciſſus orientalis calice pallido maximus*; and *Narciſſus orientalis albus luteo calyce:* the great oriental Narciſſus with a pale Cup; and with a yellow Cup.

LINNÆUS, who diſregards ſuch ſlight Marks in the diſtinctive Names of Plants, refers the ſeveral Varieties to one Kind; which from the Form of the Leaves, and Shape, Poſition, and Proportion of the Cup, he diſtinctively calls, *Narciſſus foliis enſiformibus, florum nectario campanulato erecto, petalis longe breviore:* Sword-leav'd Narciſſus, with an upright bell-ſhap'd Nectarium, much ſhorter than the Petals.

Under this Name he comprehends perhaps too many; but certainly with Juſtice, all thoſe Flowers of this Form, which have no more Diſtinction than a ſlight Variation in the Colouring of the Cup.

The Root is roundiſh, cover'd with a brown outer Skin, and hung with many large and long white Fibres from the Baſe.

The Leaves are broad, eight Inches long, obtuſe, and of a pale green, with a Tinge of blueiſh.

The Stalk is fifteen Inches high, pale and erect.

The Flowers burſt together from the Top of it, where they are at firſt incloſed in a ſlight Scabbard; and each has its ſeparate long Footſtalk.

They are large and elegant; the Petals oblong, expanded, and of a pure white; and the Cup or Nectarium ſmall, and lightly ting'd with yellow. It is waved at the Edge, and the yellow is in different Flowers various diſpoſed, and in different Degrees of Strength; but in the moſt delicate State it is pale.

The Characters are often obliterated by the Riſe of ſome irregular little Petals in the Centre of the Nectarium: theſe are the firſt Tendency of the Plant to Doubleneſs in the Flower; and Culture may eaſily improve them into the full Multiplicity of Petals, which is the Character of ſuch Flowers.

Where there is nothing of this, the Filaments are ſix; and theſe with the ſingle Style, as in the other Narciſſus's, refer the Plant to the *Hexandria Monogynia* of LINNÆUS.

Culture of this NARCISSUS.

The Plant is a Native of the ſouthern Parts of *Europe*, and of the Eaſt. It flouriſhes naturally in a rich, deep Soil, where there is ſome Shade and Moiſture.

It has been much improved from the wild State in our Gardens; and we have been long accuſtom'd to receive the Roots from *Holland*, whither they firſt came from the Eaſt.

Our Gardeners uſually raiſe the Plant from Off-ſets; but there is no Difficulty in producing it from Seeds; and every one knows the Advantage.

In the Method from Off-ſets the Flowers are limited to the few original Kinds; and they will degenerate even from the full Beauty of theſe after a certain Time.

On the other hand, thoſe who will be at the Pains to raiſe it from Seed, will have the Choice of innumerable Variations in the Colouring of the Cup, and Fullneſs of the Petals. The beſt of which they may preſerve in Beds raiſed for that Purpoſe; and the others planted out in common Borders, will add greatly to their Beauty. In both Caſes the Management is to be the ſame with that we have directed for the other Kinds, of which no part need be repeated on this Occaſion.

CHAP. II.

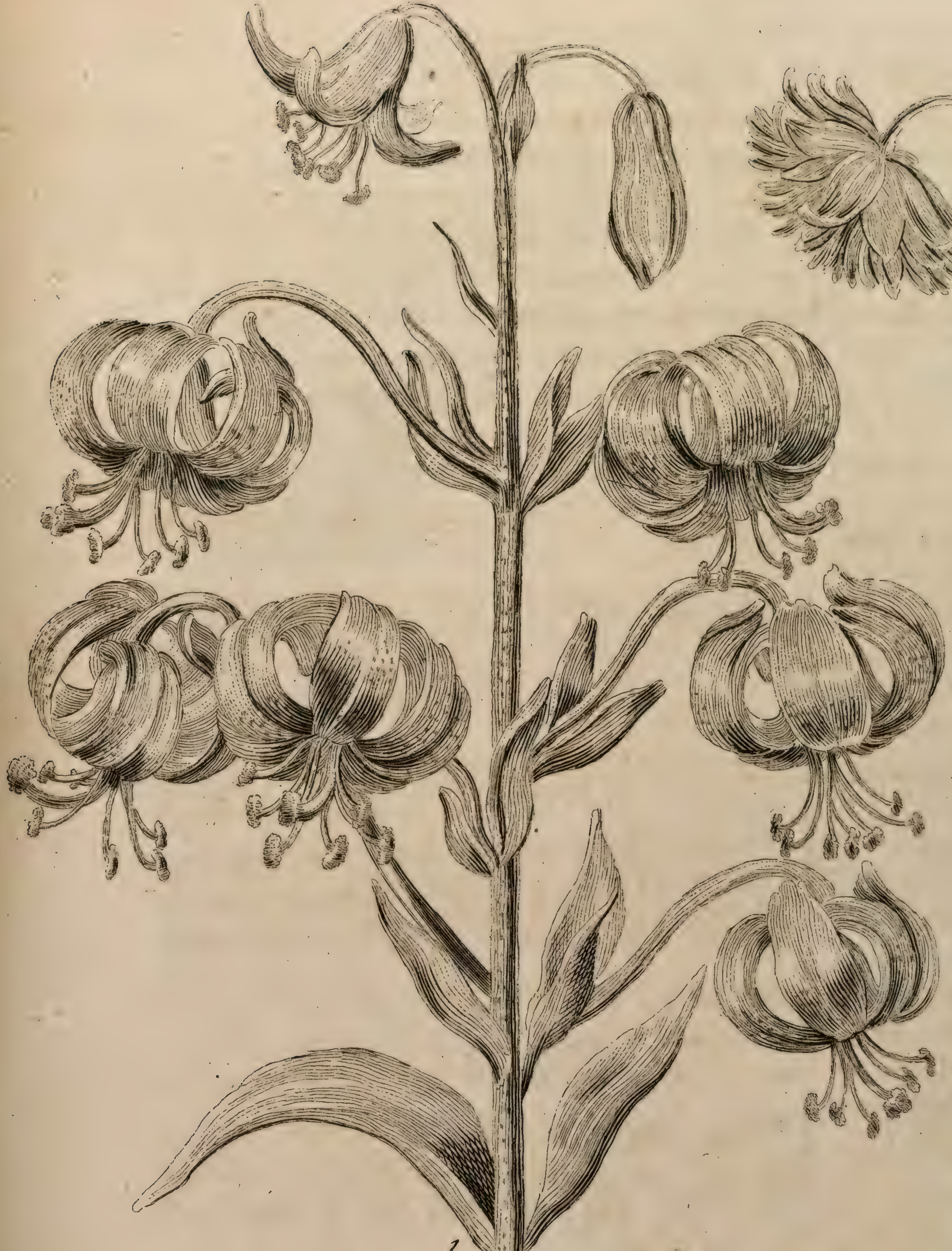
The Management of the Flower Garden, for this Week.

THE Gardener will remember that we have directed the taking up the Roots of many of thoſe bulbous and tuberous Kinds, which do not bear to be kept long out of the Ground at the Seaſon when their Leaves fade; that new Mould may be given them, and the Off-ſets which would weaken their next flowering may be taken off. Many of the Spring Flowers are of this Kind, and this is the Seaſon for removing them.

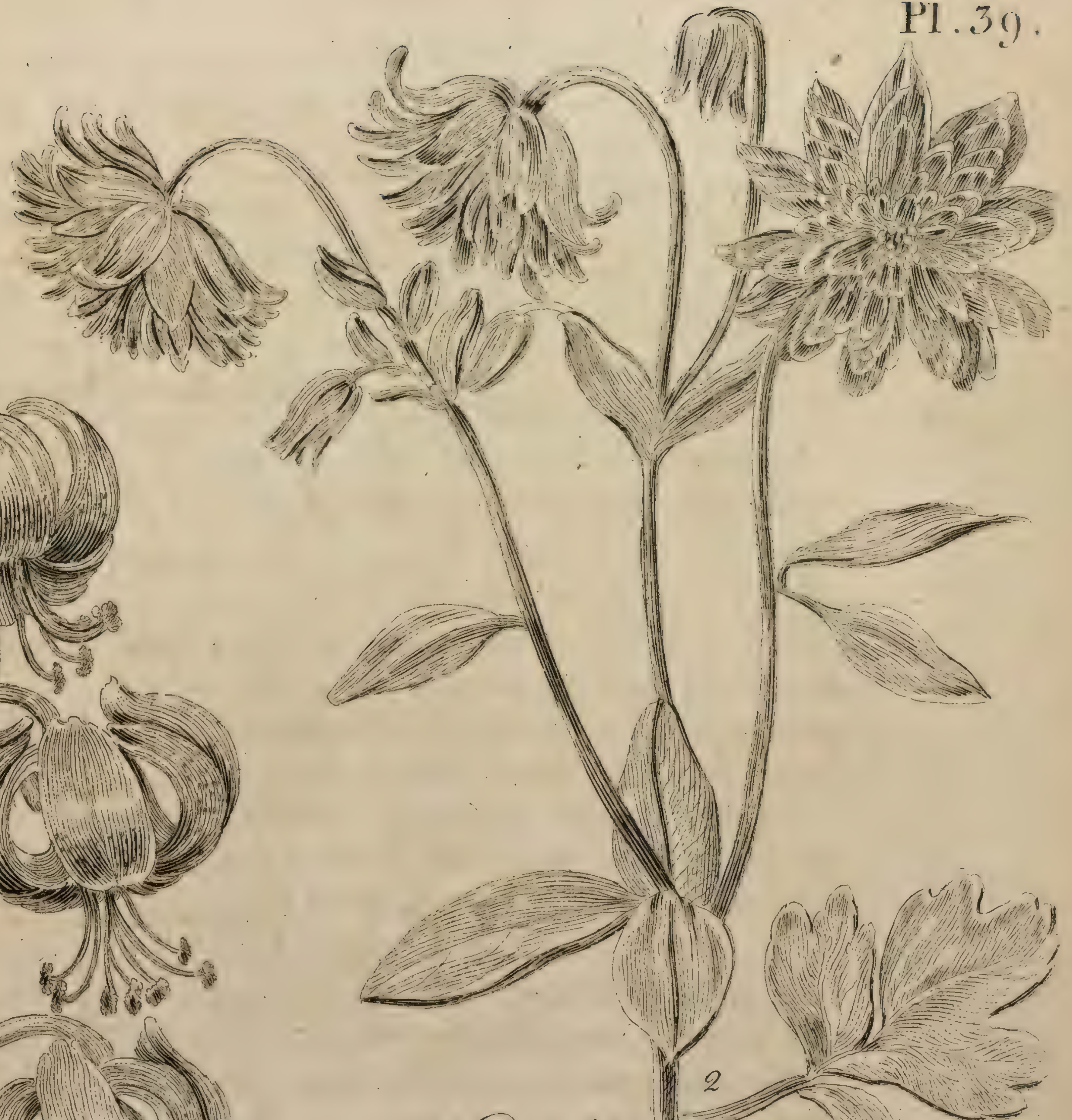
Let the Gardener ſee where the Leaves wither, and take that as his Notice for doing it. The Winter Aconite, Erythronium, early Fritillaries, Spring Cyclamens, and ſeveral others, are now in a Condition for this.

Let them be taken up with Care, and the Off-ſets ſeparated without injuring the Roots. For the choicer Kinds let the Earth be taken entirely away, and a freſh Quantity of the ſame Kind put in its Place. For the reſt let the whole be very well dug up, and broken, and let ſome freſh Paſture Mould be dug in among it. This will anſwer

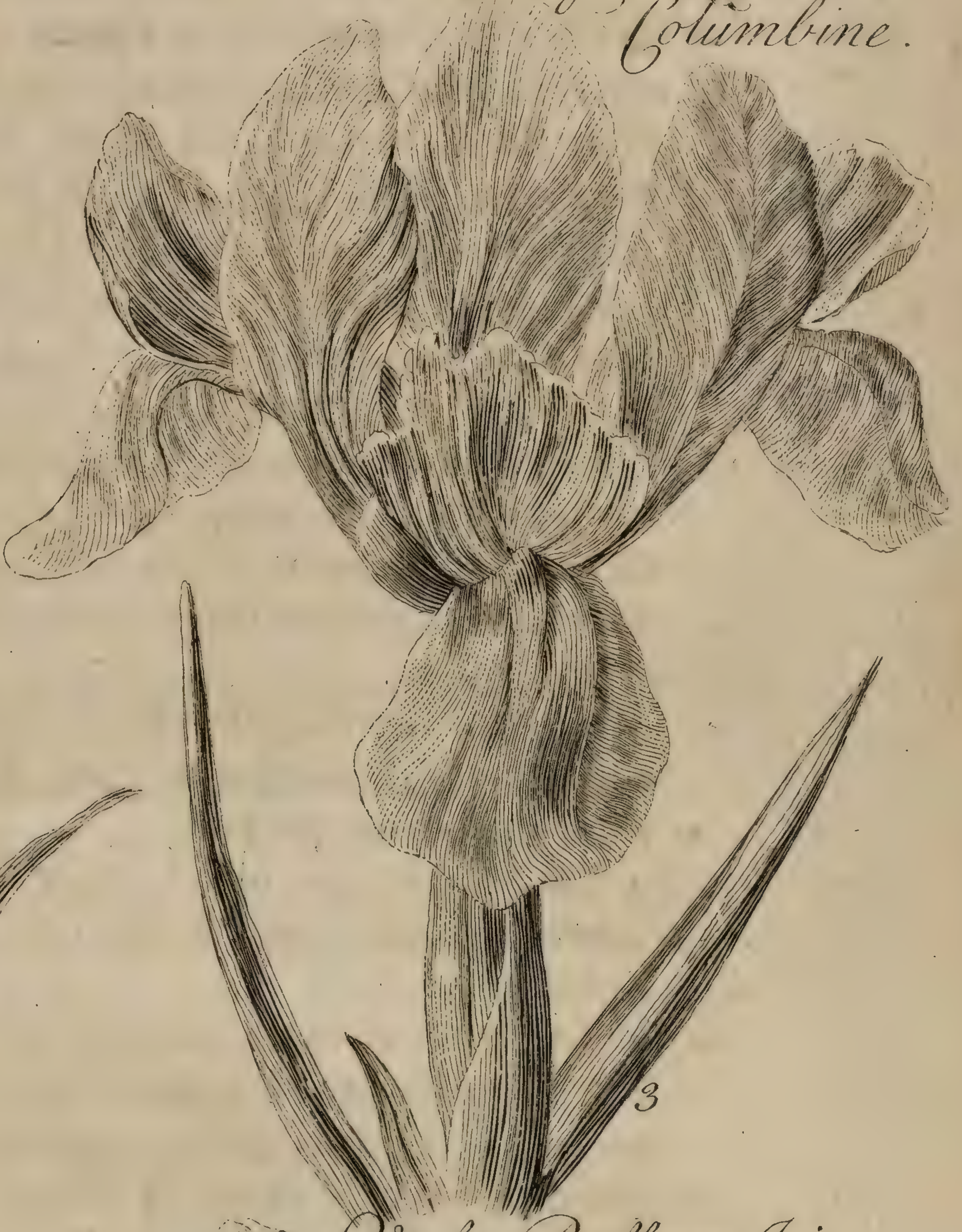
the



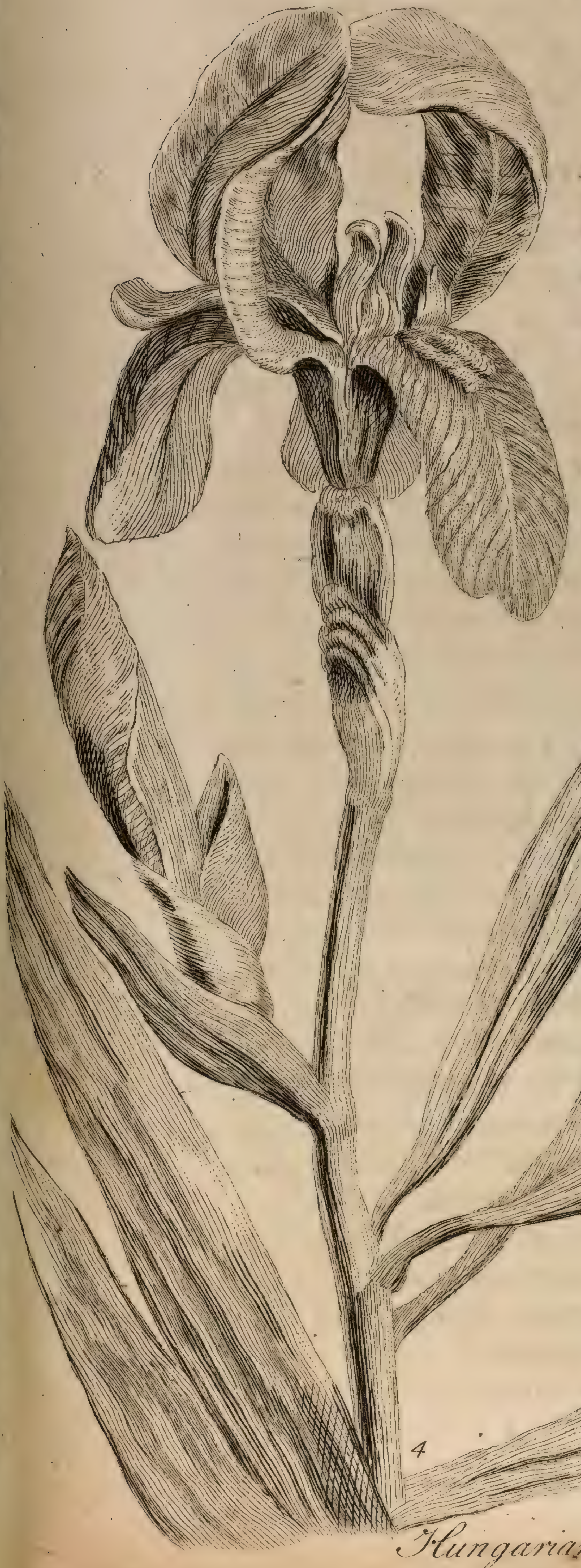
Imperial Martagon.



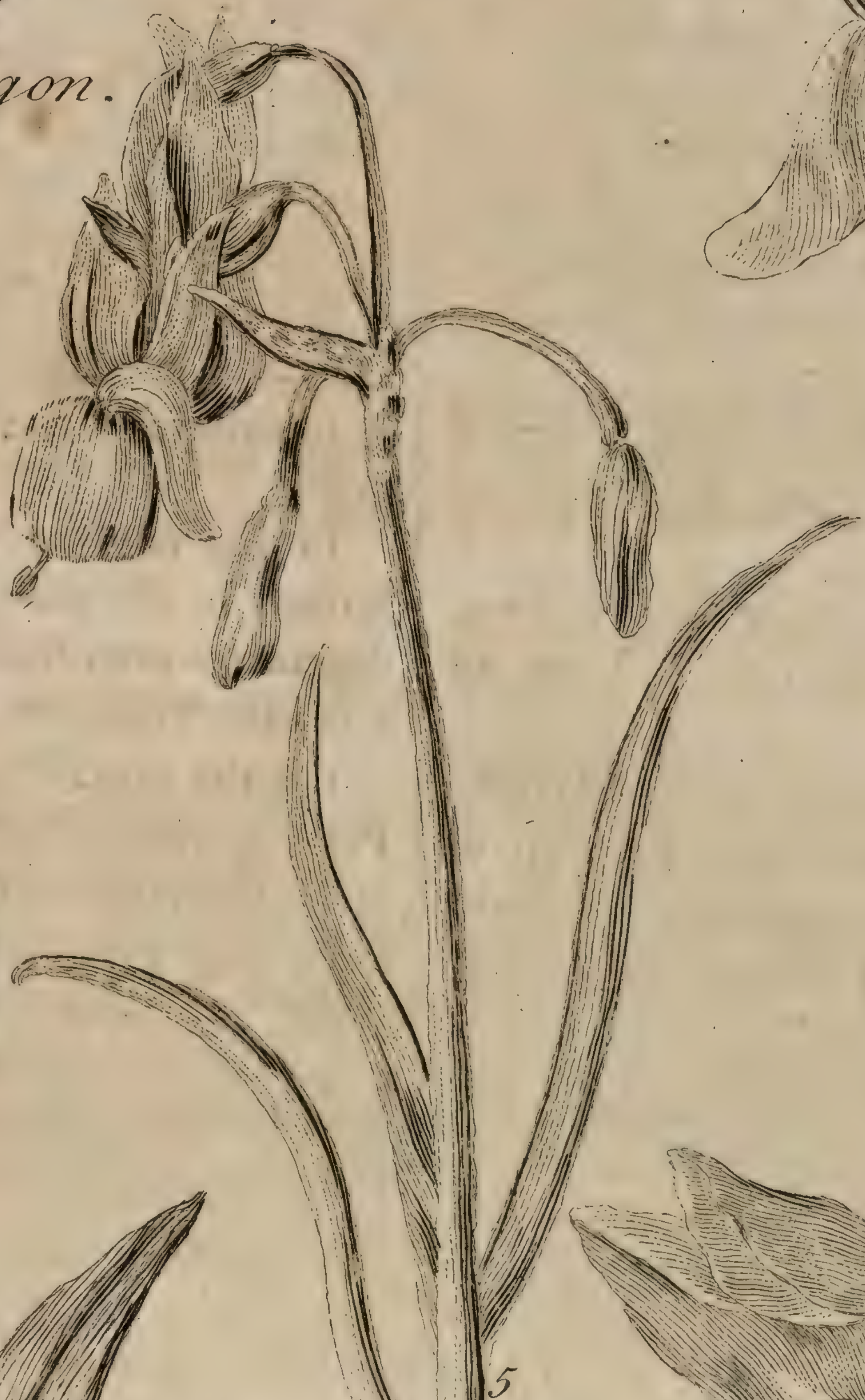
Double starry Columbine.



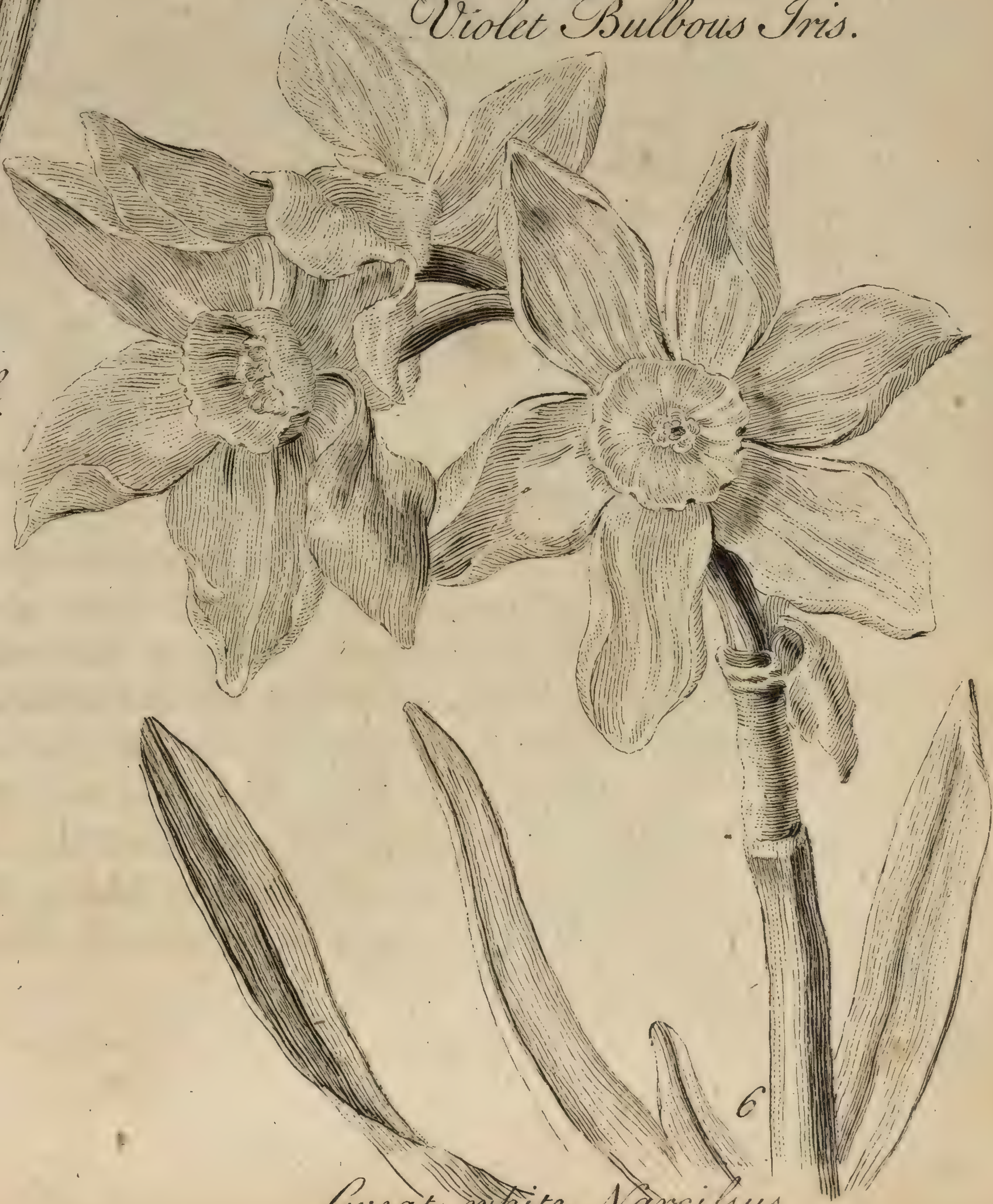
Violet Bulbous Iris.



Hungarian Iris.



Yellow & White Jonquil.



Great white Narciſsus.

the Purpoſe; and the Roots being planted in with Care, will thrive as if in a new Soil.

There is not any thing in the Culture of Plants that has more employ'd the Attention of the Curious, or appears more eſſential to the practical Hands, than this renewing of the Soil for the Support of a like Growth. It depends on this Principle, that a Plant rais'd to a finer State by Culture, will degenerate again, if left in the ſame Ground. This is an unqueſtionable Truth; and to prevent this, the Gardener renews the Soil.

The Farmer finds the ſame Condition in his Growths; and he changes the Crops. In Gardens, where the Quantity of Mould is little, it is remov'd; in Fields, where that is impracticable, the Crop is chang'd. The Land that will no longer ſupport a Growth of one Kind, will anſwer very well for another; and the ſame Mould, which in a Garden is remov'd becauſe unfit for one Kind of Plant, thrown into a different Border, will ſerve ſome other.

Mr. Tull, the moſt inquiſitive of all our Writers on Huſbandry, affirms, that good Tillage will anſwer the Purpoſe of a Change of Soil; and by what I have found in Gardening, a great deal is to be done the ſame Way. The ſame Mould which is remov'd, will anſwer beyond what might be expected, if well wrought and put in again: the digging out and removing, and making it up into a Bed for ſome other Kinds of Plants, will make it anſwer tolerably again for the ſame.

What Mr. Tull has aſſerted in regard to Huſbandry, will not exactly hold in Gardening; but it comes very near it.

Some Plants will require every Year an abſolute freſh Soil, others need have the old only recruited; and in other Caſes plain Digging alone will anſwer the Purpoſe. Theſe may be call'd the three Stages of Improvement in the Soil, and one or other of them ſhould never be omitted.

There is a Time when every Plant is in a State of reſt; this is juſt after the Seaſon of its full Bloom: the old Leaves fade, and ſoon after new Shoots riſe in many Kinds; in all, new Fibres are juſt after ſhot from the Root.

The Time before the ſhooting of theſe is that in which the Roots ſhould be taken up; and when this is done, the Off-ſets ſhould be ſeparated, or the otherwiſe encreas'd Parts taken off: at the ſame Time the Bed ſhould be thoroughly dug; and, if there be Need, a Refreſhment of ſome new Soil wrought in among it. This does for all but the moſt delicate Kinds.

The clean'd Roots are to be planted again directly; and their new Fibres finding a freſh broken Mould, will puſh with Vigour, and lay the Foundation for a fine Bloom next Seaſon. This ſhould be done now for the Kinds we have juſt nam'd; and in Autumn for the perennial fibrous-rooted Plants.

We have mentioned, and ſhall mention, under the ſucceeding particular Heads, all thoſe Plants which require to have the whole Soil chang'd; and for the others, this Digging alone, or with the Aſſiſtance of a little Refreſhment of new Mould, anſwers the Purpoſe.

This Week, if the Weather be dry, will be a proper Time for taking out of the Ground thoſe Hyacinth Roots we directed the Gardener to lay ſideways under the Mould for ſwelling.

Let them be wip'd clean, and ſpread upon a Mat in a Room where there is a thorough Air, and where the Sun does not come. Let them be turn'd every Day, till they are well harden'd, and then put up in Papers, in a ſhallow Drawer, where they are to be kept till the Time of Planting in Autumn: but in this Place they muſt be now and then examined, to ſee that they keep from Mouldineſs. If at any Time a Tendency to this is perceiv'd, they muſt be ſpread out again upon the Mat, and often turn'd, till they are paſt the Danger.

We have directed the Gardener to bring forward his Carnations for Bloom, with all Care and Attention. They muſt now be examined from Day to Day, for many of them will be ſwelling for the Flower.

The Carnation is originally contain'd in a double Cup; the outer one is form'd of four little ſcaly Leaves, and riſes immediately from the Stalk; the inner one is large, long, of a cylindric Form, and is nip'd in five Places at the Top. The ſmall outer Cup is calculated only for defending the Baſe of this inner one, which contains and defends the young Flower.

This inner Cup Gardeners call the *Pod*: it is an improper Term, for Pod is properly the Name of a Seed-veſſel; but as it is appropriated in this Caſe, it muſt be explain'd. This Pod will, at the preſent Seaſon, require the great Attention of the Gardener.

The Petals in the fine Kinds are very numerous; and the great Beauty of their Diſpoſition riſes from their Opening regularly. Nature has promoted this by the five Indentings at its Edge; but if they be not open'd farther, in the Condition to which Culture brings the Plant, the Multiplicity of the Petals will force them out irregularly on one Side, and the Flowers loſe their regular Form, which is, in the Eye of the judicious Floriſt, one great Article of its Beauty.

The common Way is to open two or three Slits in the Pod; but Nature is a better Director. Let the Gardener, with a fine Pair of Sciſſars, open all five of the natural Indentings, about one third lower than naturally in the Pod, and obſerve, a Day or two after, whether this be ſufficient: if not, 'tis eaſy to ſnip them down a little farther. The Care ſhould be to give Room for the Petals, without deſtroying the Pod: Nature intended it for a very good Service.

The Petals in this Flower have long narrow Baſes; and the Uſe of this firm long Cup is to keep them together. So much of it ſhould be preſerv'd entire at the Bottom as will anſwer this Purpoſe, while the Top is ſo far open'd as to give Way to an equal Spreading of the Petals.

This Week continue the Work of Tranſplanting out of their Seed-Beds the perennial fibrous-rooted Flowers, as alſo the biennial Kind: they muſt have a freſh dug Soil, and due Diſtance, that they may gather Strength in the ſucceeding Months, to be fit for planting out in *September* in their Places in the Borders.

This Week let the curious Gardener inoculate the ſeveral Kinds of Jaſmine. The *Italians* ſave our People this Trouble, for moſt of the fine Jaſmines are ſent over hither annually from that Country, in ſo good Order, that the moſt Curious content themſelves with them: but the propagateing them by Inoculation is eaſy; and thoſe which are rais'd in this Manner at Home, ſucceed better than ſuch as we have from Abroad. The common white Jaſmine is the proper Stock, and the Method of doing it we have deliver'd at large before.

SECT. II.

The Care and Management of the NURSERY this Week.

LET the common Work of Weeding and Digging between and about the new-planted Trees, be this Week continued throughout the Ground; and if the Seaſon be dry, let not the Gardener ſpare the Labour of Watering. Let Cuttings of ſuch other fibrous rooted Plants, as were not planted laſt Week, be put now into the Ground, obſerving the ſame Cautions of good Digging, cloſing the Mould about the Plants, and due Waterings.

The Seedling Trees of the ſeveral Kinds which bear raiſing in the open Air, and which are not yet remov'd out of their firſt Beds, will require now a great deal of Care. They are but ſlightly and ſhallowly rooted, and the Sun has a great deal of Power.

Waterings muſt be allow'd them; but unleſs a great deal of Care be taken, more Harm will come of theſe than Good. Unleſs the Water be given from a fine Pot, and be of a proper Kind, it will either waſh away the Earth from their Roots; or chill them: and at beſt it will not ſucceed without the Help of Shelter from the Sun.

The fitteſt Defence in this Reſpect, is a Reed-Hedge; and the only Water proper to be us'd for theſe Plantations, is ſuch as has ſtood open to the Sun for ſome Time, in a ſhallow Pond. Well Water is too hard and too cold; River Water partakes of the Nature of this, except where the Expanſe is great, and the Current ſlow: for in that Caſe it reſembles more or leſs the Water of Ponds; and of all others the fitteſt for tender Subjects, is ſuch as has ſtood open to the Sun, till it have the ſame Temperature with the Air and Soil. As we ſet Water in the Stove that is to be us'd for the Plants rais'd there; that which is employ'd for Exotic Trees in their firſt Growth, ſhould in the ſame Manner be of the Temperature of the Earth and Air wherein they grow.

SECT. III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

Fruits now in Perfection.

TO the ſhort Liſt we were able to give for the latter End of *May*, from the Reſources of Art, as well as the Stores of Nature, there may be now added ſome others of Value.

The ſeveral Kinds of Strawberry come in naturally, and in fine Order. Theſe ſet the forc'd Produce of the Hot-Bed in a very ill Light; but they were valuable while there could no others be had.

The Cherries of ſeveral Kinds alſo now offer themſelves; the Dukes and Kentiſh, and the earlier White and Black-hearts, Apricots, and even Peaches, and ſome Nectarines may be had from the Forcing Frame; and to theſe may be added the Pine-apple, at this Time very well flavour'd, tho' it be not the Height of the Seaſon. Indeed as artificial Heat is us'd for this delicate Fruit, the Time is leſs eſſential: they may be had the whole Year from a well manag'd Stove; but yet thoſe Months where the natural Air has moſt Heat, raiſe them in the greateſt Perfection.

CHAP. II.

The Management of the Fruit-Garden, for this Week.

LET the careful Gardener daily look over his Fruit-Trees at this Seaſon. Thoſe which he ſees leſs vigorous than the others, muſt be refreſh'd, by turning up the Mould about their Roots, and that to a conſiderable Diſtance, with a three-prong'd Fork; and it will be very ſerviceable at the ſame Time, to ſprinkle on a little rotted Dung, and waſh its fine Particles into the Ground, by repeated and not too ſlight Waterings.

If any Leaves upon the others are found infeſted with Inſects, let them be pulled off, and the Shoots all about waſh'd with Water, in which Tobacco Stalks have been ſteep'd, to prevent the ſpreading of the Miſchief. Let Snails, and all other Inſects be carefully ſought after and deſtroyed; and any looſe Branches nailed up in their Places.

The Honey Dews which ſometimes appear at this Seaſon upon the Leaves, and new Shoots of Fruit Trees, are very prejudicial to them in all Reſpects: they bring together Inſects which would not otherwiſe have been ſupply'd with Nouriſhment.

There is no Time when theſe little Vermin are more deſtructive; and none in which it is more needful to be guarded againſt them; as in all other Caſes of like kind, the Remedy muſt be attempted by pulling off the decay'd Leaves, and waſhing the reſt; and by giving better Nouriſhment.

The eaſieſt Method is by ſtrewing a little Pigeons Dung upon the Ground, and waſhing it in by repeated large Waterings. A Mixture of Salt and Soot has been alſo uſed with great Succeſs to Apricot, Peach, and Nectarine Trees under this Diſorder.

Let the Vines planted againſt Walls be this Week carefully look'd over and clear'd of the Incumberance of weak and uſeleſs Branches: at the ſame Time let all ſide Shoots be diſplaced; and let the Gardener then look to the Quantity of Leaves. There is occaſion for a conſiderable Number, but ſometimes on a well nouriſh'd Vine there will be too many. The Fruit muſt not be naked, nor muſt it be hid from the Sun.

This is not only a neceſſary Care, but it is needful to be taken at this Time: few Summers are favourable to the ripening of Grapes; and if they are check'd at this Period, the Summer in effect becomes ſo much the ſhorter to them: not only the ſhading of the Bunches at this Time will retard their future Growth and Ripening, but the chilling Winds that ſometimes blow at this Seaſon, and cold Rains, take a very diſagreeable Effect on the Grapes.

The Effect of Cold at this Time is the unequal Ripening of the Bunch: ſome of the Grapes will by this Means be ſmall, while the others have their due Growth; and a Part will be ſhrivelled and ill taſted, while the others have their full Bigneſs, and right Flavour.

The Remedy is a Reed-hedge apply'd on that Part whence the Winds blow, or a Mat drawn over the Trees to ſhelter the Fruit from the cold Rain.

The next Care is that of thinning them. We have directed in what Manner this is to be done in the Generality of Fruits, and it is not leſs needful on the Vine than any. As we ſee the Grape ripen worſe than any other Fruit with us, we ſhould give it every Advantage.

The firſt Care is to preſerve the Bloſſoms, and the new ſet Bunches: that we have given already, and when it is known what Bunches will ſtand, he is to conſider how many of them may be left to ripen.

The firſt Choice muſt be made from the Shape of the Bunches. Thoſe which promiſe to be largeſt and handſomeſt, muſt be left on.

In all the large Kind wherever there are two Bunches upon a ſhort Shoot, one of them muſt be taken off: for one will eaſily come to Maturity, where both would have ſtarved one another.

Our Seaſons are often unfavourable, but we aſſiſt them; by our own Neglect many a Vine that is loaded with unripen'd Grapes, would have brought half of them to Perfection.

The ſmaller or middle ſized Grapes muſt be thin'd by taking off Branches where they are too near; and the ſame muſt be done in the larger Kinds, if it be found that the firſt Care of thinning have not been ſufficient.

The common Gardener does not think it neceſſary to thin the Fruit of a Shrub that is ſo luxuriant in its Shoots; but Experience ſhould ſhew him what Reaſon, and a Knowledge of Nature, teaches the Philoſopher, that they are different Juices which muſt go to ſwell the Fruit, and give it a due Flavour, from thoſe employ'd in ſupplying the Abundance of ſtraggling Branches.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Products now in Seaſon.

IN a well manag'd Kitchen Ground there will be this Week a vaſt Variety of Products in their full Perfection. Beſide Lettuces, and the other Kinds which appear'd a little ſooner, Aſparagus will continue very good; and there will be Endive, and early Celeri; Carrots, and Turneps; Cauliflowers, and Cabbages, all young and delicate; and Beans, Peaſe, and French Beans; Cucumbers in Abundance, and ſome Melons and Artichokes.

CHAP. II.

Care and Management of the Ground.

THIS will be a proper Seaſon to tranſplant the young Cauliflower Plants raiſed for Winter Uſe. They muſt have a Bed of deep fine Mould; and they muſt be ſhaded and water'd duly till they have taken Root. If they feel any great Check from this Removal, they inſtantly are infected with Inſects, and very rarely come to good afterwards.

This, as in moſt other Caſes, depends upon a want of Nouriſhment; and what is called blighting, is uſually no other than ſtarving. Good Waterings and due ſhading till the Plants have well rooted themſelves, will prevent it; and often nothing can cure it.

This Week there ſhould be ſome Cabbage Lettuces ſown for a late Crop. The Ground muſt be laid very level, and the Seed ſown in a calm, cloudy Evening: after which it will be proper to throw on a Piece of Buſh; and in a Day or two, if the Ground continue dry, to allow a gentle Watering. This muſt be given with great Care, or the Seeds will be diſturb'd, and more harm than good come from it.

Dig up a rich Piece of Ground for tranſplanting the ſeedling Brocoli. Draw Lines lengthway and acroſs at three Inches Diſtance, and ſet the Plants in that Meaſure; they will thus take their Growth without running up ſo weak, as they would have done if left in the Seed Bed: after about ſix Weeks they will be ready for planting out where they are to remain.

We have directed the ſowing a late Crop of Cucumbers in Holes for pickling: they will be now up, and require the Gardener's Care. Let him firſt take up the Weeds that have riſen among them, and then obſerve which are the ſtrongeſt Plants.

Three of theſe are to be left in each Hole; and all the reſt being taken up, the Mould is to be gather'd about the Stalks of theſe, and they muſt have a gentle Watering. After this they will be in no Danger; they will grow apace, and ſtarve the Weeds that would riſe among them.

The common Practice is to leave four Plants in a Hole; and for this the Gardener pleads the Direction of the common Inſtructor. Let us refer him to a better Guide, Experience. We have found three Plants produce more and better Cucumbers than four.

The Melons in general will be now ſet in for Fruit, and there is no Time at which they require ſo much Care. Too much Heat, Cold, or Wet, will have the ſame ill Effect in making them drop off.

From Eleven to Three they ſhould be ſhaded from the fierce Sun.

If the Nights be at all chill, they ſhould be ſhelter'd by a Mat; and tho' it is dangerous to give them too much Water near the Head of the Plant, it will be of vaſt Service to water the Parts all about the Bed.

The Roots of the Melon Plant ſpread to a great Diſtance every Way; and the extream Fibres in this, as well as other Kinds, draw moſt Nouriſhment, therefore the Watering at a Diſtance is the true Method.

In the common Way every Gardener knows that the Waterings frequently chill the Plant by hanging upon the Stalks; throw off the new ſet Fruit, and rot the Branches. All this will be avoided by the Method of Watering at a Diſtance, and at the ſame Time the Advantage of Moiſture will be given as perfectly as any other Way.

In the ſucceeding Management of the Melon Plants, nothing is ſo delicate a Point as that of Watering: the filling up the Alleys with a well ſuited Soil, trod properly down, will do a great deal; but though it keep the Roots much moiſter than they would be otherwiſe, it is by no means enough for the Purpoſe; nor is there any Thing ſo dangerous as giving a large Quantity. If the Roots want Moiſture, the Fruit will not attain their due Bigneſs; if too much be given, they will not have the due Flavour.

In all theſe ſucceeding Waterings, the beſt Method is to give them at a Diſtance; for tho' after the Fruit is ſet firmly, the firſt Danger of beating it off in the common Way of Watering is over, yet ſtill the Plant is better ſupply'd thus.

Theſe Waterings muſt always be given in an Evening; and all that will be neceſſary farther, is to clear away Weeds carefully; to break the Surface of the Mould now and then; to lay the ſpreading Branches in decent Order, and when the Fruit is as big as an Apple, to place a Piece of Tile under each to promote the Ripening, and preſerve it from the Damp of the Ground.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XL.

For the third Week in *JUNE*.

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

1. THE LATE DOUBLE TULIP.

June.
Pl. 40.
Fig. 1.

THE Tulip, as well as other Kinds, is capable of that Multiplicity of Petals which makes what we call Doubleneſs in a Flower, but it is not in this State uſually much regarded: the Beauty of that Flower is naturally of another Sort, and the Doubleneſs is rarely perfect.

The Flower we here preſent to the curious Reader, deſerves, however, to be exempted from that general Diſregard; as there is in it beſide a great deal of Elegance, a Singularity in the Doubleneſs unknown in any other Kind.

If we would look into the Origin of double Tulips, we ſhall find they have been known almoſt as long as the Flower itſelf has been introduced into our Gardens.

It is not quite two hundred Years ſince the firſt Eaſtern Tulip made its Appearance in *Europe*; and within twenty Years after, CLUSIUS gave an Account of a Tulip of the late Kind, with a double Series of Petals.

This was the firſt double Tulip ſeen in *Europe*, and was a poor Flower; the Colour being principally green: the Singularity, however, recommended it to his Notice, and to that of others: ſince that Time BESLER has figur'd two, a ſcarlet and a yellow, both elegantly double, and of much later Time. The *Paris* Garden has afforded two others, which they diſtinguiſh by the Names of the *Crouſtilleuſe*, and the *Monſtre jaune double*; the curled, whimſical, and the monſtrous yellow double Tulips.

June.

It is ſingular that all theſe have been of the late Tulip Kind. CLUSIUS gives this Particular in the Name of his, *Tulipa ſerotina viridis duplici foliorum ſerie*: and BESLER adds the ſame Character of Lateneſs to both his, *Tulipa ſerotina flore pleno miniato*: and *Tulipa ſerotina tota lutea flore pleno*: the late green, double; the late red, double; and the late yellow, double Tulip: of the *French*, the firſt is of the variegated Kind, and the other of the great yellow, both alſo late Tulips.

Our Gardens afford ſeveral Tulips which are more or leſs double, early and late, tho' not exactly of either of theſe Kinds; and they are partly ſuch as have numerous, equal Petals; partly thoſe with Cluſters, of ſmall and irregular ones, curling about the Baſe of the Inſide of the Flower.

Few of theſe deſerve Attention; and we mention without Cenſure, the Diſregard Floriſts ſhew them; but this, of which we treat in the preſent Chapter, is not to be rank'd among them.

The general Growth is as in the common Tulips.

The Root is bulbous, and moderately large.

The Plant, though a very late one, is ſmall; and has much more the Aſpect of ſome of the early Kinds.

The Leaves are broad, oblong, hollow, waved at the Edges, and of a blueiſh green.

The Stalk is ten Inches high and weak; the Leaves on it reſemble thoſe from the Root, and at its Top ſtands a ſpecious and moſt ſingular Flower.

Its Shape is tolerably perfect; but toward the End of the Time of blowing, the Petals ſpread themſelves open, and then beſt of all diſcloſe the inner Structure.

The Flower agrees with the common Tulips in all the general Characters: it riſes naked from the Stalk; it is form'd outwardly of ſix Petals, and there are within ſix Filaments with their Buttons, and a ſingle Rudiment of a Seed-veſſel. This refers it to the *Hexandria Monogynia*, the ſixth of the LINNÆAN Claſſes, and its firſt Section.

The Peculiarity is this: within the Flower there riſe ſix ſmaller Petals; theſe ſurround the Rudiment of the Fruit as the Filaments do in other Tulips, and they are form'd each into a ſhort and ſingle Body, with a forked Head.

The Body is flat; the two divided Parts are narrow, and a little waved; and in their Centre is placed the Filament belonging to each Diviſion of the Flower; with its Button.

The Filament is ſhort, and has its Inſertion at the Top of the ſingle Body, between the two Diviſions: the Buttons are of the uſual Form; and they are ſhielded from Injuries by the divided Parts.

The Colouring of the Flower is very pretty. The Body is crimſon, and the Points and Edges of the Petals are uſually white; often that Colour is diſperſed in wild Stains over the reſt of the Flower, and ſometimes it occupies the greater Part of its Surface.

The inner Petals are ting'd in the ſame Manner. Their ground Colour is a light Crimſon, but the white is finely laid in long Streaks like Ribbands upon them; and often there runs between theſe a Rib of Fleſh Colour.

Culture of this TULIP.

No regular Method of Sowing can be laid down for the procuring this Flower: for as it is no more than a Variety from Accident produced by the Seeds of the common *Geſnerian* Tulip, the Courſe of Nature in theſe Productions is too little underſtood for Art to copy.

It has been ſuppoſed that many of the Varieties in Tulips were owing to the Roots being ſtarved, or check'd in growing; but if that be allow'd as the Cauſe of breaking the Colours, the contrary muſt be called into the Account for an exuberant Number of Petals.

Abundant Nouriſhment alone can be the Source of theſe Redundancies; ſo much we may be certain with reſpect to the Number of inner Petals; but what it is that throws the Filaments of the Flower from their natural Origination in its Baſe, and mounts them upon the Summit of the Body of thoſe ſingular Parts, we are yet to learn.

Let the Gardener who would raiſe double Tulips, enrich the Soil of his Seed Beds beyond what we have directed on that Head. Swines Dung is an excellent Addition. Let him ſow the Seeds of bold and healthy Flowers; and when his Patience has obtain'd the flowering Time, let him examine what are double; and whether any in this Form.

If he miſs this particular Kind, he will not fail of having enough of the fineſt Flowers from the ſucceeding Management, to anſwer his Trouble.

If he perceive none of this Kind, let him ſave the Seed of ſome of the double ones that ripen it well; and ſowing that in the ſame Manner, he will probably ſucceed.

There is no Way but by repeated Trials; and the Comfort to the Floriſt is, that none of theſe fail of producing good Flowers. When by this Aſſiduity he has obtain'd one with the ſingular Character here deſcrib'd, let him allow it a richer Soil than ordinary, and encreaſe his Store by a prudent Management of the Off-ſets from its Root.

2. ORIENTAL MEADOW CROWFOOT.

Pl 40. Fig. 2.

The Crowfoots of our Meadows are not without their Beauty; and the Varieties raiſed from them by artful Culture are all very pleaſing.

From the Eaſt we received long ſince into our Gardens, a nobler Kind, which we have filled with Petals doubled like the Roſe, and ting'd with various Colours; but there are yet others, Natives of remote Climates, that will readily live in our Gardens; and tho' of the wild Aſpect naturally, yet capable of all the Elegance that can be given to other Flowers by Culture.

Of this laſt Kind is the Plant named here, it has been raiſed from Seeds brought from the remoteſt Part of the Eaſt; and wearing at preſent its natural Aſpect, appears more of the *Meadow Crowfoot* Kind, than of that which has been ſo long, and ſo juſtly eſteem'd in our Gardens.

The Singularity will now recommend it, but 'twill be eaſy to give it a new Form by Culture.

The old Botanical Writers have not been acquainted with the Plant: we owe it to our lateſt Travellers. The Student muſt not therefore expect to be told what it has been called by thoſe Authors, but that it is named with Propriety by LINNÆUS, *Ranunculus ſeminibus ſpinoſo ſubulatis recurvis calycibus reflexis foliis multifidis:* Meadow Crowfoot, with multifid Leaves, with prickly bent Seeds, ſmall to the Point, and with the Cups turn'd back.

The Root is compos'd of numerous long Fibres, connected to a ſmall Head.

The firſt Leaves have long hollow'd Footſtalks, and they are large, and divided into a Multitude of long narrow Segments: they are of a tough Subſtance, and their Colour is a greyiſh green. They are covered with a looſe cottony white Matter.

The Stalk is a Foot high, upright, round, and divided into a few Branches.

The Leaves ſtand alternately on this, and reſemble thoſe from the Root, by their Diviſion into numerous, long, and narrow Parts. Their Colour is the ſame whitiſh green with that of the others, and they are covered with the like cottony Matter.

The Flowers terminate the Stalks and Branches, and ſeveral are ſupported alſo on ſlender Footſtalks, riſing from the Boſoms of the upper Leaves: they are in the whole, numerous; and they are conſpicuous both in Size and Colour. They are half an Inch in Diameter, and of a very fine, tho' not ſtrong yellow.

The Cup is compos'd of five oval Leaves, and theſe, when the Flower is open, turn back; and, hanging downward, ſhew the Hollow of their Inſide ting'd with the yellow of the Flower, tho' paler.

Five Petals form the Body of the Flower, and theſe are obtuſe at the End, broad, and fix'd to the Receptacle by ſmall Baſes. A little above this Part, in each Petal, there is a ſmall Hollow, the Nectarium.

The Centre of the Flower is fill'd with a Multitude of Filaments, and a Cluſter of Rudiments of Seeds, with their Heads, plac'd in the Midſt. The Filaments are ſhort, and they are crown'd with doubled Buttons. The Rudiments have each its ſeparate Head fix'd to their Summit, without any Style; and when the Flower is fallen with its Cup, theſe ripen into ſo many oblong pointed Seeds.

To know the Claſs and Place of the Plant in the LINNÆAN Syſtem, the Student muſt trace theſe numerous Filaments to their Origin. He will find they riſe from the Receptacle; and that the Plant is therefore one of the *Polyandria:* the numerous Rudiments refer it alſo to the *Polygynia.*

Culture of this CROWFOOT.

The Plant is a Native of the Eaſt, where it thrives beſt in a deep Mould, with ſome Moiſture. The Seeds grow freely with us; and it flowers, as in its native Meadows, in the Borders of our Gardens.

The Diviſion and Colouring of the Leaves diſtinguiſh it at Sight from all the *European* Kinds; and there is ſomething in the Size and Colour of the Flower that naturally ſtrikes the Eye: we propoſe to enrich this with additional Petals, and that Way to make it a proper Ornament of the Flower-Garden.

There is no Plant in which Nature is more apt to be luxuriant in the Number of Petals, than the Crowfoot. In the common Kind, which at this Seaſon gilds our Meadows, there are frequently ſix, ſeven, or more, inſtead of five; and we ſee frequent in our Gardens, the upright Kind, brought in from our Paſtures elegantly double.

What is ſo familiar in the *Engliſh* Meadow Crowfoot, I have ſeen in this Oriental Kind: in one Flower gather'd from a thriving Plant of it in Mr. LEE's Garden, I counted nine Petals, tho' the Generality had but five, according to the natural Limitation: from this 'tis plain, that Nature is enclin'd to this Redundance in the Flower; and on that Obſervation it is not raſh to form the Purpoſe of rendering it by proper Culture, double, in the Manner of the common upright Crowfoot. In this Caſe, the Plant would be extremely elegant. The Flowers, naturally larger, and of a more delicate yellow than in that Kind, would give it a great Preference; and as they are numerous, and the Branches not ſtraggling, one may expect to ſee ſuch a Plant well train'd, cover'd with a compleat Head of Flowers, each of the Bigneſs of a Walnut, and of a delicate Lemon Colour.

This is the State to which the Gardener ſhould attempt to bring the Plant. It has not yet been done, but Nature gives plain Indication that it may: 'tis a proper Subject for his Art, and he will get Credit who ſhall firſt ſhew the Flower in this Perfection.

The Method of attempting it muſt be this:

Let one of the Plants now in Flower be mark'd for Seed. Let all the Flowers and Buds be cut from this, except three or four; and if there happen to be a Flower with more than the five common Petals, let that be certainly one of thoſe ſav'd for Seed.

Let the Ground be clear'd of Weeds and other Plants, of whatever Kind, for a Yard round about this; and once in four Days let the Surface be well broke with a Trowel, not going ſo deep as to diſturb the Roots. Let the Stalks that have Flowers on them, be ty'd up to Sticks; and every Evening give the Plant a gentle Watering.

Let this be continued till the Flowers are fallen, and the Heads of Seeds have their full Bigneſs: then give no more Water, but leave the Seeds to harden upon the Stalk.

When they begin to be looſe, carefully cut off the Heads, and lay them to dry upon a paper'd Shelf.

Thus there will be a Certainty of good Seeds; and the next Care muſt be to compoſe a proper Soil. In this, and in the Situation, Nature muſt be the Rule.

In all theſe Caſes, the ſame Kind of Soil ſhould be choſen that Nature ſhews moſt ſuited in the wild Growth of the Plant; and the ſame Kind of Situation.

Mix for this Purpoſe a Buſhel of rich Meadow Earth, taken from under the Turf where there is ſome Moiſture; three Pecks of Pond-Mud, and two of rotted Cow-dung. Throw in two Quarts of coarſe Sand, and work the whole together.

Chuſe

June. Chuſe a Part of the Nurſery that is not too much expos'd to the Sun; and in the latter End of *Auguſt*, taking out the Mould from a ſmall Piece, throw in this Compoſt five Inches thick. Scatter the Seeds over the Surface, and ſift upon them a third of an Inch of the ſame Mould. Lay a Piece of Hawthorn over the Bed, and leave it to Nature. All the Care it will require farther will be weeding in common with the other Ground; and if the Surface ſhould grow very dry, a gentle Watering.

When the young Plants appear, they muſt be water'd more frequently; and thin'd if they ſtand any where too cloſe.

In the Middle of *April* let another Bed of the ſame Compoſt be prepar'd for them. Let them be taken up out of the Seed-Bed, and planted regularly in this, at ſeven Inches Diſtance. Here let them ſtand till Autumn, and when they ſhew the Signs of ſending up a Stalk for flowering, let it be cut off in Time, for the whole Buſineſs now is to ſtrengthen the Roots.

In Autumn let another Bed be prepar'd of the ſame Compoſt, and plant them again, at ten Inches Diſtance. Cover them in the hard Froſts of Winter, and the next Year let them flower, without any other Removal.

June. The Plants from this Culture will greatly exceed thoſe from whence the Seeds were taken; and many of them will probably ſhew ſemi-double Flowers. The Seeds of theſe muſt be ſaved, as we have directed for the others; and theſe being ſown in the ſame Manner, and the young Plants manag'd with the ſame Care, will probably afford the Plants we have thus purpos'd to raiſe; ſuch as ſhall have the Flowers perfectly double.

When ſuch a Plant is once obtain'd, the Propagation of it will be eaſy: all theſe fibrous Crowfoots ſpread at the Root abundantly; and by parting them in Autumn there will be a quick Encreaſe.

That double Flowers of this Species may be rais'd, is plain, from what we ſee ſo familiar in the other Kinds; and we find in them, that each retains its original Character and Bigneſs, when thus fill'd with Petals.

The double Flowers of the common upright Crowfoot, tho' cluſter'd full of Petals, are ſmall; and the double Flower of the common creeping Kind, is, on the other Hand, large and ſpecious. The Size would therefore naturally be preſerv'd in this, and the delicate pale yellow. Theſe, with the ſilvery Whiteneſs of the whole Plant, would render it a Species highly worthy its Place in every good Garden.

3. HUMBLE POLEMONIUM.

Pl. 40. Fig. 3. The Gardener is to be inform'd, that under the Name *Polemonium*, is now underſtood the Plant which the Vulgar have been accuſtom'd to call *Jacob's Ladder*, and thoſe a little more acquainted with the Subject, *Greek Valerian*. That is a Plant common in every Garden, and diſtinguiſh'd into two Varieties by the Colour of the Flowers, the Blue, and the White.

It had been very improperly numbered with the *Valerians:* but thoſe leſs accurate Writers, who conſidered the general Aſpect of a Plant, more than the eſſential Characters, when they reduc'd it, in their Way, to its Genus, might very naturally fall into that Error: the winged Leaves, and terminating Tufts of Flowers, give the Plant the general Air and Aſpect of a *Valerian*, tho' its true Characters, plac'd by Nature in the Flower, and there read by the more accurate Eye of modern Science, are perfectly diſtinct.

The Genus thus diſtinguiſh'd from *Valerian*, LINNÆUS has nam'd *Polemonium*; nor muſt the Reader ſuppoſe he has by this confounded it with one yet more diſtinct, the *Poley mountain*. That had been called *Polium montanum*, a Name ſome have confounded with *Polemonium*; but he takes off the Epithet, and writes that ſimply *Polium*.

The Gardener thus underſtanding that *Polemonium* is the Generical Name of the Plant he has been us'd to call *Greek Valerian*, will perceive, at the firſt View of the Figure of this Plant, that it is of the ſame Genus, as well as that it differs ſpecifically from the common Kind. The Name *humble* we have given from its lower Stature, and more tender Conſtruction, than in the common Kind; and he is not to expect he ſhall meet with any other.

The Plant is a Native of *North America*, and but newly known in *Europe*. The old Writers have therefore no Name for it; and LINNÆUS, who has ſeen the Plant, conſiders it as a Variety, not a diſtinct Species, and has therefore given it no ſeparate Name.

All the Reverence we owe that Author's Judgement muſt not ſhut our Eyes againſt Truth and Nature: the Plant is diſtinct in Species from the common Kind, and may be call'd *Polemonium pinnis paucioribus ovatis*: *Polemonium*, with few and oval Pinnæ.

That Author has done great Service to Botany, by reducing Varieties to their proper Species; but the Deſcription of this Plant (with which we ſhall mention the correſpondent Parts of the common) will ſhew that he has here carry'd the Reduction too far.

The Root is fibrous, and ſpreads abundantly under the Surface.

The firſt Leaves are long and winged; each is compos'd of about four Pairs of Pinnæ, and theſe are of an oblong oval Form, obtuſe, and pale. In the common Kind there are from twelve to twenty Pairs, and they are pointed, and of a freſh green.

The Stalk is round, lightly ſtriated, weak, uſually a little bent, and of a pale green. In the common, it is firm, rigidly upright, high ridg'd, and ting'd with a purpliſh brown.

The Leaves in this are few, rarely more than three or four, and plac'd at conſiderable Diſtances:

in the common they are numerous, ten, twelve, or more, and ſtand near.

Each Leaf in this Plant is compoſed of about three Pair of Pinnæ, with an odd one; and theſe are oval, diſtant, and ſpread out flat: in the common Kind there are in each Leaf eight or ten Pair of Pinnæ; and they are oblong, narrow, waved, placed cloſe to one another, and of a ſtrong green; they alſo ſtand obliquely, not flat.

The Height of this is about a Foot; that of the common two and a half.

The Flowers terminate the Stalk in a ſmall looſe Tuft, and other little Cluſters riſe on ſlight Footſtalks from the Boſoms of the upper Leaves. In the common Kind they are more numerous, and the Tufts are thicker.

Their Colour in this is a faint, but delicate greyiſh blue; in the common it is a deep blue, approaching to a violet purple. The Colour of the Buttons on the Filaments in this is white: in the other they are of a Gold yellow, extreamly conſpicuous. The Petals in this Species are rounded at the Ends, in the common kind much leſs ſo.

With theſe Diſtinctions which Nature ſtrongly ſhews, the Student will determine, tho' againſt LINNÆUS himſelf, that it is a different Species.

Each Flower is placed on a Cup form'd of a ſingle Piece, divided into five Segments, and expanded at the Mouth. Theſe are of a pale green, and very delicate; and they have ſcarce any perceptible Hairyneſs.

In the common Polemonium they are ting'd with brown, as the Stalk, and are firmer and more hairy.

The Flower itſelf is form'd of one Petal, divided into five large Segments, which open wide and elegantly.

The tubular Part is ſhorter than the Cup, and the opening is cover'd by five ſmall and delicate Valves. From theſe riſe ſo many Filaments ſhorter than the Flower, a little bent, and crown'd with roundiſh incumbent Buttons.

In the Centre appears a Rudiment of an oval Form, from which riſes a ſingle Style longer than the Filaments; and crown'd with a three-parted Head, whoſe Segments turn back.

The Seed-veſſel which follows this Flower is of an oval Form, but mark'd with three Ridges, and contains numerous Seeds.

The Claſs of the Plant is eaſily read in this Flower: the five Filaments and ſingle Style ſhew it one of the *Pentandria Monogynia* of LINNÆUS.

Culture of this POLEMONIUM.

It is a Native of *North America*, and therefore requires little Care or Pains to raiſe it in our Gardens. It grows freely from Seed, and never alters its Form; which, if only a Variety, it would do: but the parted Roots grow ſo eaſily, and it encreaſes this Way ſo abundantly, that nothing but a Curioſity to try the Experiment of the Species, could lead any one to be at that Trouble. No Varieties are to be expected; no Advantage from ſuch Culture: therefore all the Pains we adviſe the Gardener to beſtow upon it is, to adapt a proper Soil, which ſhould be equal Parts of rich Meadow Earth, and Garden Mould, and to put this into ſome Place where there will be ſhade from the Noon-day Sun.

In this let parted Roots be planted in Autumn, and no farther Care will be needed. It will live like a Weed: if the Ground be now and then water'd about it, it will thrive the better; and at Autumn the Stalks and Leaves may be cut down together, and ſome freſh Mould drawn over the Stumps. It will thus become perfectly vigorous, and a large Tuft of it will give Variety in any Plantation.

4. DOUBLE WHITE CROWFOOT.

Pl. 40.
Fig. 4.

What we have propoſed to be done in the oriental Meadow Crowfoot, and inſtanced in the common creeping, and the common upright Kinds; the doubling of their ſeveral Flowers by Art, has been long done in this, and we owe to it one of the prettieſt Plants that decorate our Borders.

Nature firſt ſhew'd it in this State by Accident to the early Botaniſts: for what we atchieve by Labour, and a delicate Application of our beſt Knowledge, ſhe often pours ſpontaneouſly before us in her Wantonneſſes upon the untilled Fields.

We ſee the Double Ladyſmock, and Double Sneezewort in our Meadows and Paſtures; and in the ſame Manner. This elegant Plant which in the ſingle State is common in the now deſolated Fields of *Bohemia*, ſometimes courts the Attention even of the incurious by its roſy Fullneſs there.

Thence it was brought firſt into Gardens; for we are not to ſuppoſe that what we find it now ſo difficult to effect under the improved State of Gardening, was familiar to thoſe who practiſed the Art in the rude Days wherein we find firſt mention of it: but what they brought from Fields into their cultivated Ground, and were proud to preſerve as they found it, we have improved; and with due Induſtry and Art can raiſe for ourſelves.

Among the earlier Writers, all who had ſeen the Plant were ſtruck with his Beauty; and to their Credit, they have all named it properly. Indeed the Characters of the Ranunculus Kind are too obvious to be overlook'd, or miſtaken eaſily: they have called it, *Ranunculus flore albo alpinus*, and *Ranunculus montanus maximus albus*: The white Alpine Crowfoot, and great white

Mountain Crowfoot: and C. **Bauhine** in particular, *Ranunculus montanus aconiti folio albus flore majore.*

Theſe were its Names in the ſimple State of the Flower; and though they have not diſtinctly named or deſcribed this elegant double Plant, they all obſerve that it is ſometimes found with full Flowers.

Theſe Writers too often name Varieties diſtinctly as Species, but 'tis an Error they have here avoided.

Linnæus, more diſtinctive in his Names of the Species, calls this, *Ranunculus foliis omnibus quinatis lanceolatis inciſo ſerratis:* Crowfoot with all the Leaves divided into five Parts, and thoſe lanceolate and deeply cut and notch'd. In this he refers to the Plant in the ſingle State of the Flower, naming the double Form as a Variety.

The **Bauhines** and others have divided the Plant, tho' not from the Doubleneſs, yet from the Size of the Flower, into two imaginary Species. They diſtinguiſh them by the Addition of *flore majore*, and *flore minore*; the greater flower'd, and leſſer flower'd white Crowfoot: **Linnæus** refers theſe as the other, to the proper original Species; no more allowing the Bigneſs of a Flower to conſtitute a particular Kind, than the accidental Number of its Petals.

The Root is compoſed of numerous thick ſpreading Fibres, which riſe as it were immediately from the Baſe of the Stalk, without any Head.

The firſt Leaves are ſupported on long Footſtalks, and are of a deep but elegant green.

They are divided to the Baſe into five Parts; and theſe are oblong, broadeſt toward the Middle, and ſharp pointed; and they are deeply jagged, and notch'd at the Edges.

The Stalk is round, thick, and branch'd; two Foot and a half high, of a pale whitiſh green, and often ſtain'd browniſh.

The Leaves on this are like thoſe from the Root, only ſmaller; and they ſtand irregularly, and at Diſtances.

The Flowers terminate the Branches, and are very numerous and elegant: they are of a ſnowy Whiteneſs; and are compoſed of numerous Series of ſmall, curled, and waved Petals.

This is the elegant State in which the Plant comes properly under the Gardener's Cognizance.

The Botaniſt who deſires to trace it to the proper Claſs, muſt have recourſe as uſual to a ſingle Flower. This he will find in all Reſpects, except Colour, like thoſe of the common Crowfoot of our Meadows. It has its little Cup of five Leaves: the Petals are five, and each has its hollow at the Baſe, the Nectarium of the Flower.

The Filaments which are extreamly numerous, riſe from the Receptacle, and ſurround a great Cluſter of Rudiments of Seeds; each of which, tho' deſtitute of a Style, is crown'd with its proper Head. Theſe, which we have before obſerved are the Characters of all the Crowfoots, refer that Genus to the *Polyandrous* Claſs, and under that Head to the laſt Diviſion, the *Polygynia.*

Culture of this CROWFOOT.

The Climate and Soil in which a Plant is naturally produced, are the Gardeners everlaſting Rule for its Culture. This ſhews the Plant here mention'd, can want little of his Labour. What the Meadows of *Germany* produce, will ſupport itſelf with Eaſe in the Gardens of *England*; and there will require no Compoſt. The common Mould will very well nouriſh; and the parted Roots encreaſe it.

The Seeds in double Flowers rarely ripen well; the Root in this Plant encreaſes freely; and no farther Perfection can be expected in the Bloom, than perfect Doubleneſs and a true white. Theſe will be continued to it when the parted Roots are planted with tolerable Care; and all that it can require farther, will be at due Times a freſh Soil.

The Way of managing it is this: every Autumn let the Roots be taken up, and planted again in a Bed of freſh Mould. When they have extended themſelves to a conſiderable Bigneſs, let them be parted; and toward the Seaſon of their flowering, let them have frequent moderate Waterings.

Let the Flowers be taken off as they fade, and new ones will be thus produced in Abundance; by this, with the Benefit of watering it, will flower all Summer.

5. SANGUINARIA.

Pl. 40. Fig. 5.

We propoſe here to the Attention of the curious Gardener, a Plant ſingular enough, and not without Beauty; eaſily raiſed and preſerved, and demanding the more Attention for its long flowering. The old Authors could not be acquainted with it, for it is native only of *America*; and tho' very worthy a Place in all Gardens, it is yet in a manner confined to thoſe of the Curious.

The firſt in whoſe Writings we find an Account of it is **Cornutus**; and he, perplexed by its peculiar Aſpect, ſcarce could gueſs to what Genus to refer it. He called it a *Chelidonium majus*; adding as its Diſtinction from the other of that Name, *Canadenſe acaulon:* the great Celandine of *Canada*, without a Stalk.

In this generical Name **Morison** and **Ray** concurred; and they copy'd alſo the diſtinctive Terms by which that Author explain'd the Species, unalter'd.

Our laborious **Parkinson** ranks it in the ſame Manner under the Name *Celandine*, treating of that Genus; and in another Place, not conceiving that it was the ſame Plant, deſcribes and figures it under the Title of the *White Virginian Crowfoot*; *Ranunculus virginicus albus*.

To the more diſtinguiſhing Eye of DILLENIUS, both theſe Names appear'd improper; he ſeparated the Plant from the *Celandines* and *Crowfoots*, calling it *Sanguinaria*. This Name LINNÆUS retains. DILLENIUS diſtinguiſhes what he calls three Kinds of it, a larger and a ſmaller with ſingle Flowers, and a larger with double.

Theſe the more accurate Writer juſt named, (not allowing the Size of a Flower, or Number of its Petals as diſtinctive Characters of Species) refers to the one original Plant of CORNUTUS; and as there is no other Species known, he adds nothing to the generical Name, but calls the Plant ſimply *Sanguinaria*.

We owe our Countryman RAY the Juſtice to obſerve, that his Diſcernment ſhew'd him it was not properly of the *Chelidonium* Kind; tho' he did not give it another Name.

MORISON, on the other hand, ſeems to underſtand that the yellow Juice with which it abounds, juſtifies the calling it a *Chelidonium*. Thoſe were but ſlightly improved Times of Science, when the Student was refer'd for the Character of the Genus, to the Colour of the Juice.

The Root is thick, fleſhy, brown on the Outſide, and when broken, yellow.

The Leaves riſe from it ſingly on long Footſtalks. They are few but large, of a greyiſh green, and of a ſomewhat rounded Form, but cut in at the Edges like the Leaves of ſome of the leſs indented Vines.

Their Footſtalks toward the Ground are rediſh; and both theſe and the Leaves when broken, yield a thick yellow Juice in the ſame Manner as the Root; like that of the great *Celandine*, but of a ſtrong and unpleaſing Smell.

The Flowers are large, elegant, and of a pure white. Each is ſupported ſingly on a naked, ſlender, and low Footſtalk; red toward the Ground, and paler upwards; and from its Size which is more than equal to that of the largeſt *Meadow Crowfoot* Flower, as well as the ſnowy Whiteneſs, it appears very conſpicuous.

The Cup is ſlight, form'd of two hollow oval Leaves, and of ſhort Duration.

The Number of Petals in the Flower is properly eight, but Culture uſually makes them more. In *America* this Number is conſtant; but in our Gardens it is commonly exceeded: this, as well as the Shape of the Seed-veſſel, ſhould have ſhewn the firſt Authors who named the Plant, that it was not a *Celandine*; for in that Plant they are only four.

In the Centre ſtand numerous Filaments, ſhort, ſlender, and crown'd with ſimple Buttons; and in the Midſt of them an oblong Rudiment of a Seed-veſſel, crown'd with a thick furrow'd Head, without any intermediate Style.

The Seed-veſſel when ripen'd is oval, and contains in one Cell numerous rounded, and pointed Seeds.

The Filaments adhere to the Receptacle. This, with their Number, ſhews it one of the *Polyandria*, and the ſingle Head one of the *Monogynia*.

Culture of this SANGUINARIA.

A Native of *North America*, can need little Care to raiſe it in our Gardens. The natural Soil of the Plant is a deep rich Mould, and it loves ſome ſhade. Such a Part of the Garden muſt be choſen for it as is not expoſed to the Noon-day Sun; and ſome Pond Mud dug in among the common Mould, will excellently ſupport it.

The parted Roots produce the Flowers very perfect; but the Seeds ripen with us, and grow freely. It will be very well worth while ſometimes to ſow them, for the Chance of obtaining larger, and more double Flowers.

It begins flowering in *April*, and if expoſed to the Sun is ſoon burnt up; but under ſhade, will continue till this Time.

6. DEADLY NIGHT-SHADE.

Pl. 40. Fig. 6. Two Reaſons will occur at the firſt Sight of this Name, for which the Gardener will think the Plant ſhould be deſpiſed and hated: that it is *Engliſh*, and that it is *poiſonous*. But we ſhall ſhew him, that tho' a Native of his own Country, it is worth his Notice; and tho' eſteem'd poiſonous, will probably be found ſuperior in Virtues to the whole Vegetable Claſs. All the late Authors name it; and the Generality of them have refer'd it, as the Vulgar do, to the Night-ſhade Kind; though improperly. They called it, *Solanum melanoceraſos*, *Solanum manicum*, and *Solanum lethale:* Black Cherry Night-ſhade, Mad Night-ſhade, and Deadly Night-ſhade.

TOURNEFORT juſtly ſeparated it from the *Solanums* by the Name *Belladonna*; and LINNÆUS who preſerves the Diſtinction, diſcarding that unſcientifick Term, has called it *Atropa*. He adds as the Diſtinction of the Species, *caule herbaceo foliis ovatis integris:* Herbaceous Atropa, with oval undivided Leaves.

The Root is long, thick, and brown.

The Stalk is a Yard high, purple at the Bottom; of a pale green upwards; thick, hairy, and divided into a few Branches.

The Leaves are numerous, and placed irregularly; they are oblong, broad, not at all indented at the Edges; of a faint green, and hairy.

The Flowers are very numerous, and ſingular in their Aſpect. They riſe from the Boſoms of the upper Leaves, and are hollow, oblong, and large;

of a duſky greeniſh Colour, ſtriated and ſtain'd in various Degrees with a dull purple.

The Baſe within is yellowiſh, and the upper Part purple.

Theſe Flowers are ſucceeded by large beautiful gloſſy Berries, of a fine jet Black, and the Cup of the Flower remains with them. This Cup is form'd of a ſingle Leaf, divided deeply into five Segments.

The Body of the Flower is form'd of a ſingle Petal, tubular and ſmall at the Baſe, ſwell'd and hollow in the Body, and at the Edge divided into five little wav'd Segments.

In the Hollow of the Flower are plac'd five Filaments and a ſingle Style: the Filaments converge at their Baſes, and ſpread out to the Top, and they have large doubled Buttons: the Style is ſlender, and a little bent; as they are: it riſes from a roundiſh Rudiment of the Berry, and is crown'd with an oblong Head, placed tranſverſely: the Berry contains ſeveral Kidney-ſhaped Seeds.

The five Filaments and ſingle Style plainly refer the Plant to the *Pentandria Monogynia*, the fifth Claſs in the LINNÆAN Method, and its firſt Section.

Culture of this ATROPA.

It is wild in our own Kingdom; and conſequently will be hardy in our Gardens. The Root is perennial, and the Berries ripen freely; ſo that the Plant may be propagated either by parting the one, or ſowing the Seeds from the other. It requires a deep mellow Soil; and when once fixed in ſuch a one, will keep itſelf alive.

All the Care required about it will be to cut down the Stalks before the Ripening of the Berries, for they have a tempting Look to Children; and, if eaten, will deſtroy them.

This Plant has ſtood now ſome Centuries under the Brand of poiſonous; and not without ſome Reaſon, for it is capable of Deſtruction. Many have periſh'd by it; but it perhaps may ſave more than it has killed. Poiſon is a vague Term, and may be apply'd to moſt of the powerful Medicines, *Opium*, and the like, in over Doſes. What Ill it has done all have heard; what Good it is capable of doing ſhould be known as univerſally.

Of the Uſe of Deadly Nightſhade.

THE Antients ſpeak of a *Solanum manicum*, or *Solanum furioſum*, ſo nam'd from its Effects in producing a temporary Madneſs. They have been underſtood to mean this Plant: but their Commentators have erred: MATHIOLUS is with Reaſon to be excepted from the Cenſure; for he judg'd more truly, that it was unknown to them.

Their *Solanum*, whoſe Name was ſimply the Word *Strychnos*, had, in a ſmaller Doſe, the Effects of Inebriation; in a larger Quantity it caus'd Madneſs; and in a yet larger, Death.

Thus much THEOPHRASTUS ſays of it. A Dram of the Root given in Wine, produc'd the leſſer Effect, two Drams brought on the greater, three Drams occaſioned Madneſs for Life, and four were fatal. This is the Account given by the Father of Natural Knowledge; and this DIOSCORIDES, and thoſe who followed him, tranſcribed; adding or altering ſlightly, according to their particular Opinions.

From theſe *Greeks* the *Romans* took their Detail. PLINY has joined the Words of THEOPHRASTUS and DIOSCORIDES together: AETIUS is but a Tranſcriber of DIOSCORIDES; and moſt who came later have copy'd PLINY. Hence we have the Hiſtory of the *Greek Strychnos*, and its Intoxications, which they call'd *Strychnomania*, the Madneſs of *Solanum:* and all this late Writers have attributed to the Deadly Nightſhade.

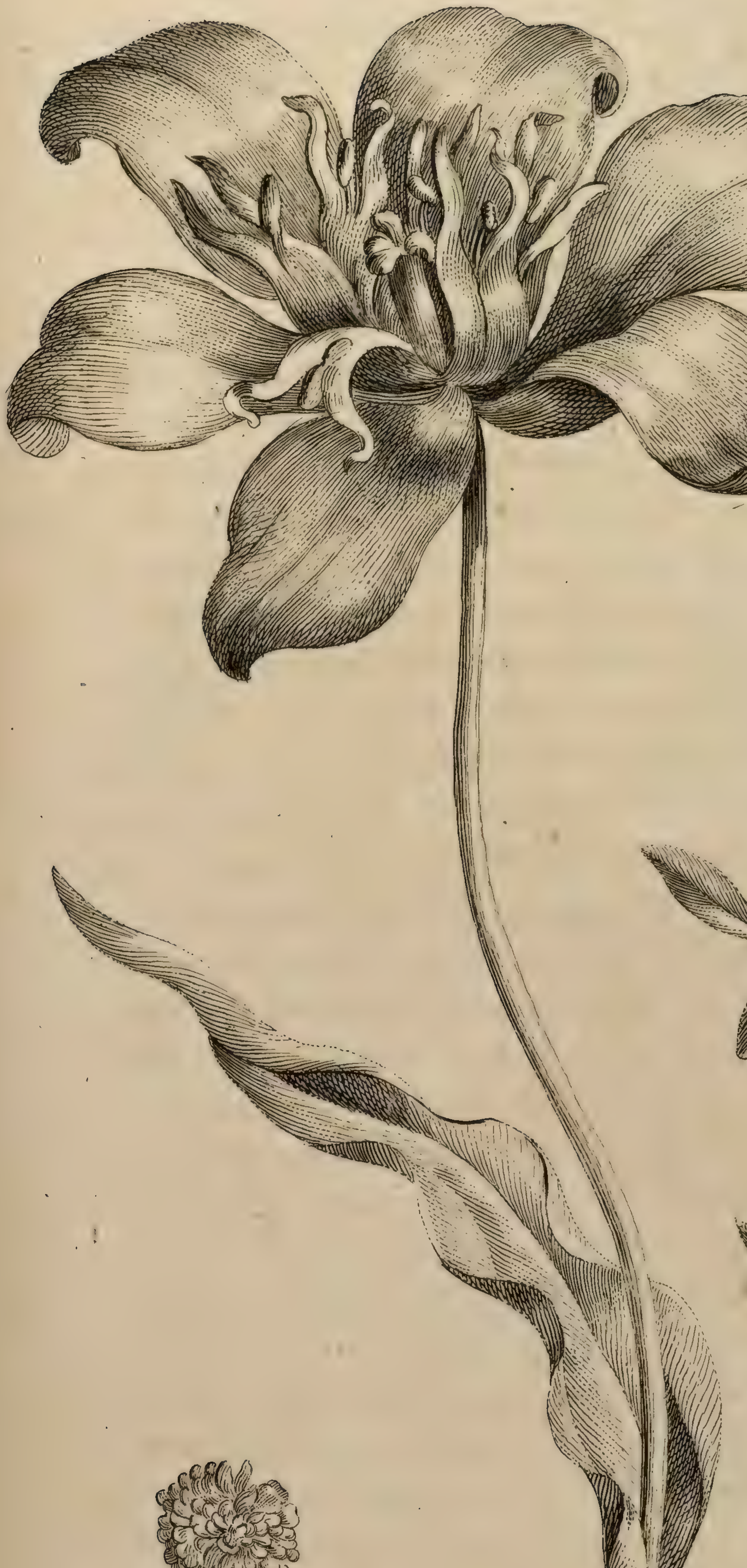
The old *Greeks* knew three Nightſhades: the Garden Kind, which they held innocent; the Somniferous, which brought on Drowſineſs; and the furious or mad Nightſhade, whoſe Root in various Doſes occaſioned theſe different Effects.

They have left Deſcriptions of all theſe Kinds: and none of them agree with our Plant; neither do the Doſes. They aſſert, that a Dram of the Root of the *Solanum furioſum* might be given with Safety; but a few Grains of that of our Deadly Nightſhade have been found fatal.

The Deadly Nightſhade therefore is not the *Solanum furioſum* of the Antients; nor do their Deſcriptions of that Plant agree with it: for that had Leaves like the *Rocket*, or *Acanthus*, and cluſter'd Berries as the *Ivy*. The Deadly Nightſhade does not appear to have been known to them; but it poſſeſſes the ſame Qualities in a ſuperior Degree: a Grain of it being equal in Effect to a Dram of theirs. It is able to bring on the *Strychnomania*, or Nightſhade Madneſs; and, when taken inadvertently, is fatal.

With theſe bad Qualities, it poſſeſſes alſo great and ſalutary Virtues; and theſe were early known; though they have been too much neglected. MATHIOLUS mentions the Uſe of it internally, in the diſtilled Water, againſt Inflammations of the Viſcera; and in a Syrup from the Juice of the Berries: as alſo outwardly, in various inflammatory Swellings.

In the Writings of thoſe who firſt deſcrib'd the Plant, it is ſtrongly recommended as a Cure for Cancers. This, tho' an important Article in its Hiſtory, was long overlooked, and it was dreaded as a Poiſon, while neglected as a Remedy for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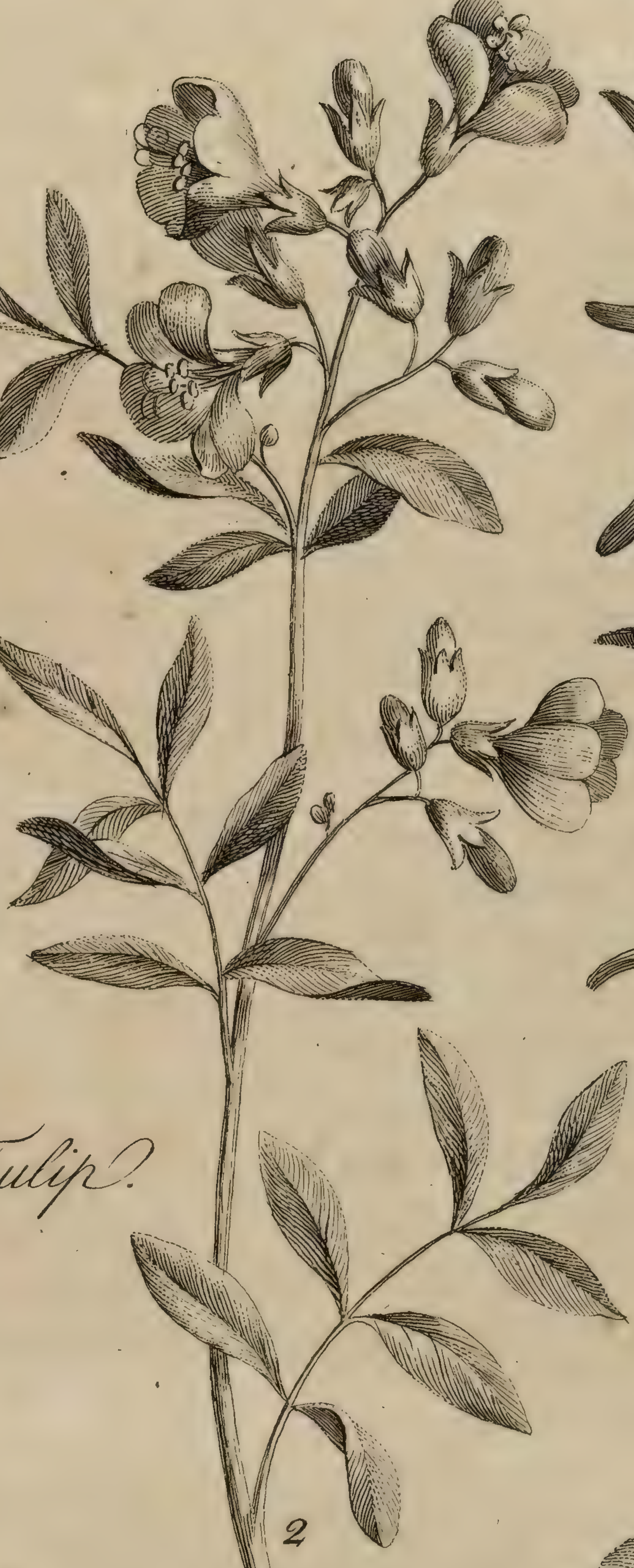
Late double Tulip.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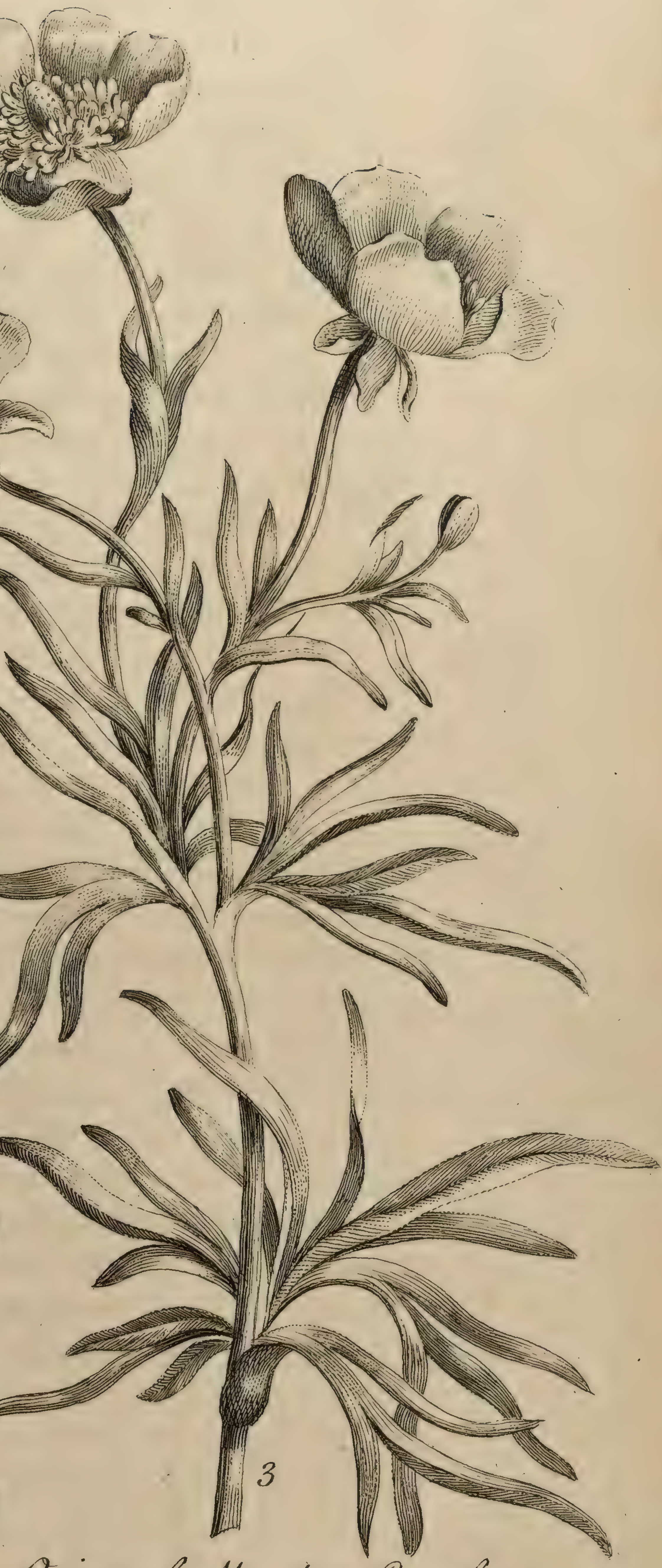
humble Polemonium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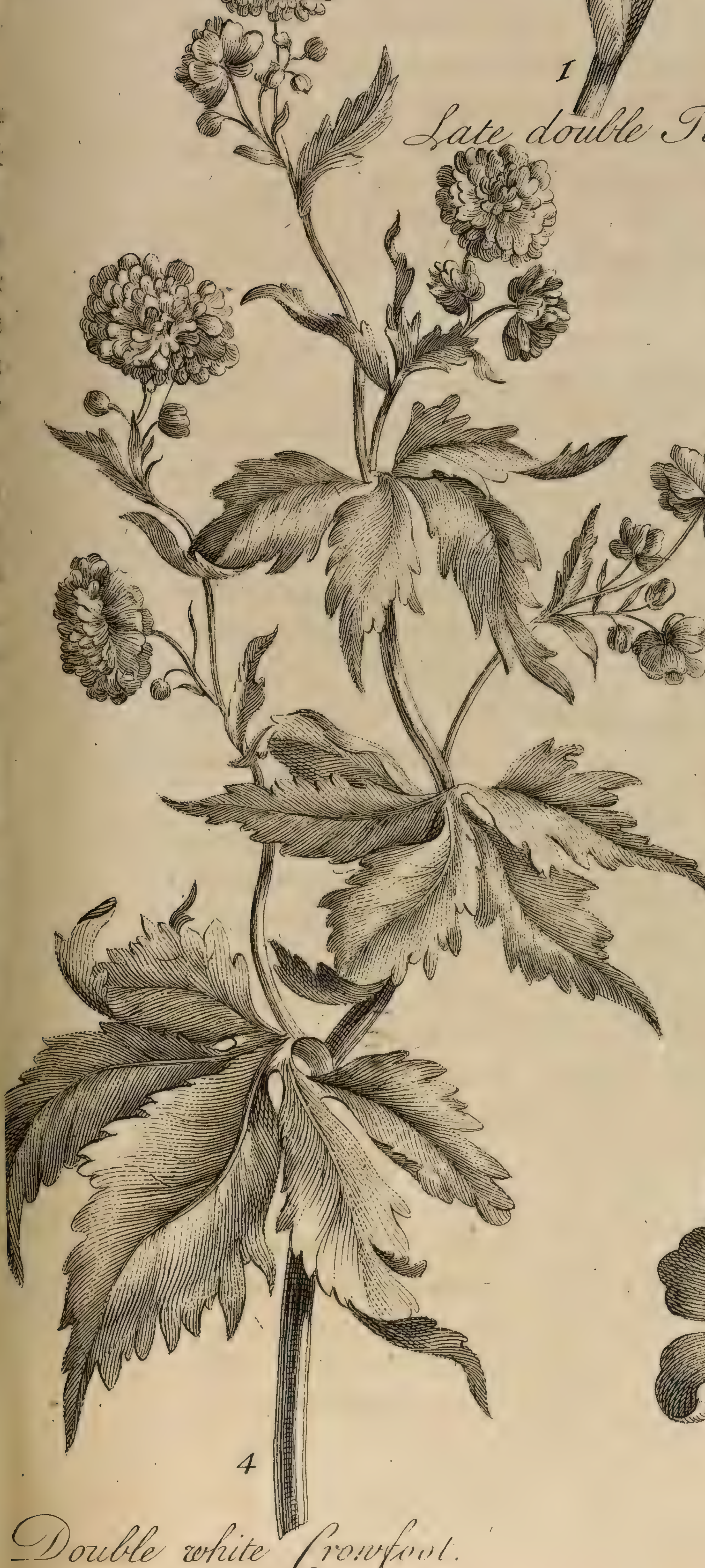
Oriental Meadow Crowfoot.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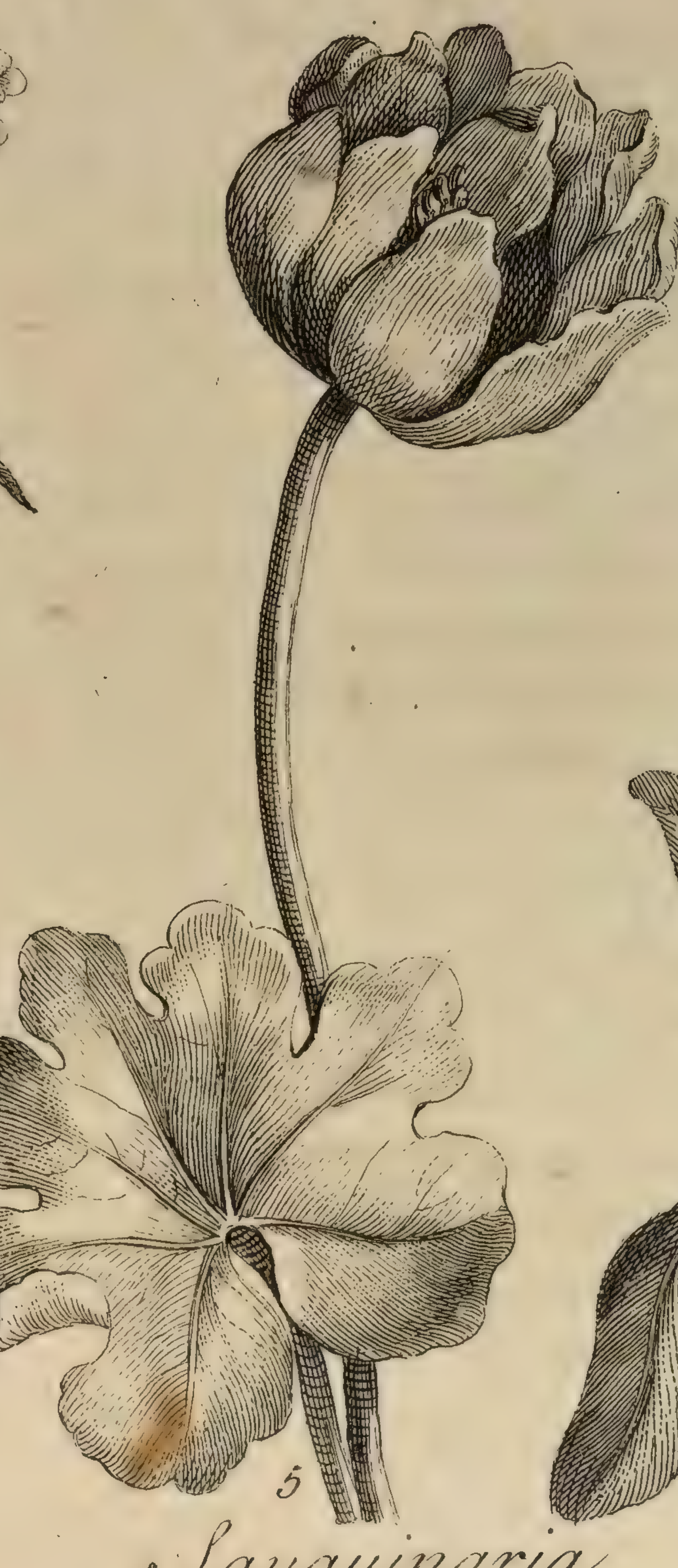
Double white Crowfoot.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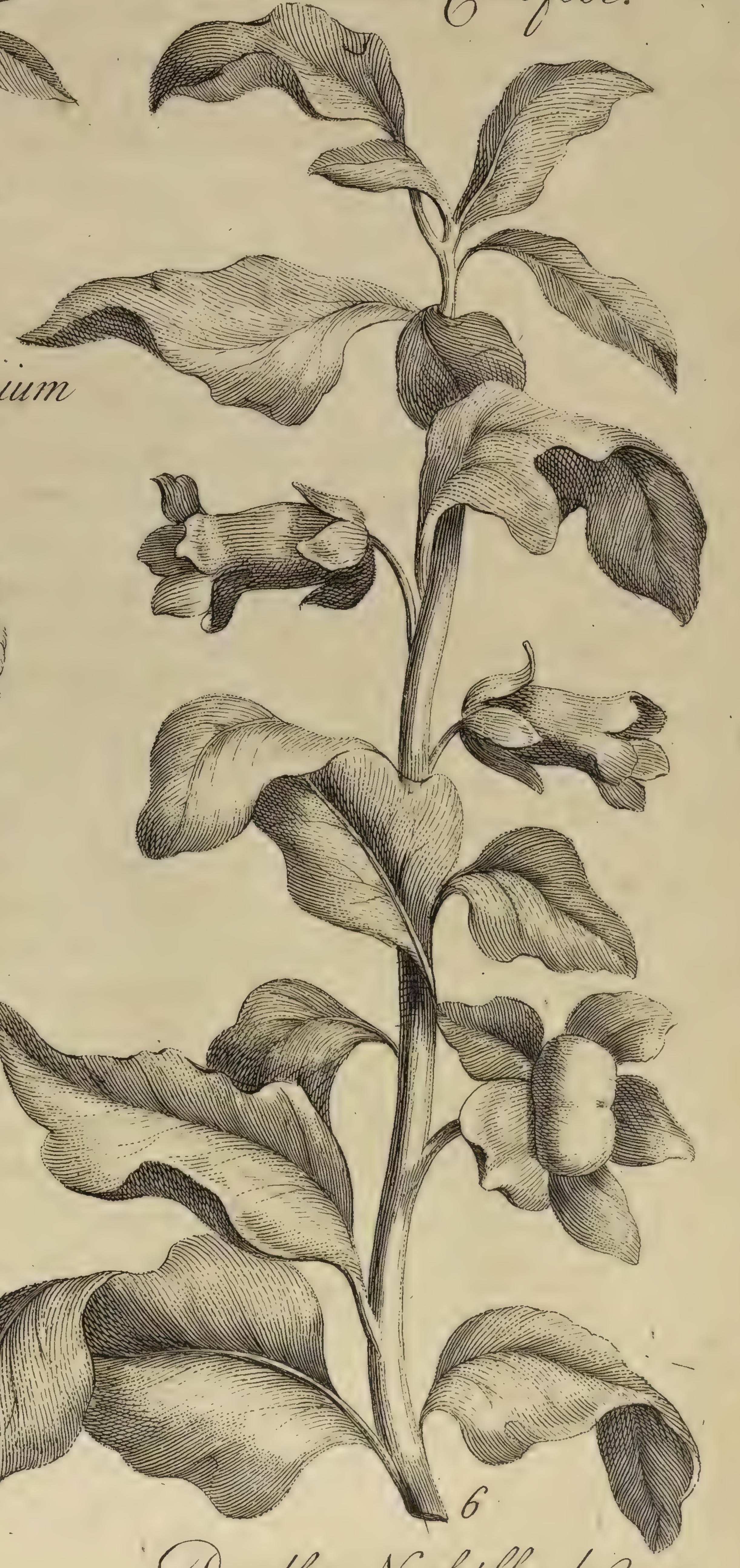
Sanguinaria.


6

Deadly Nightſhade.

for the moſt deſperate of all human Maladies. They have read and remembred the Stories of GERARD, concerning Children kill'd by the Plant, who never regarded the abſolute Account of Mr. RAY, of Cancers which it cur'd.

This Author, whoſe Candour and Veracity are unqueſtioned, gives an Account of Mr. PERCIVAL WILLUGHBY'S uſing the Leaves externally, for the Cure of Cancerous Tumors of the Breaſt; with the greateſt Succeſs: He adds, that himſelf alſo ſaw an amazing Effect from a Piece of the Leaf laid on a Cancerous Tumor under the Eye, which ſo dilated the Pupil, that it remained a long while four Times as big as that of the other; and incapable of Contraction, even by the Effect of the Sun Beams.

Happily for the World, a Foreigner, ſtruck by the concurrent Teſtimony of many Authors, that this Herb had ſo great Virtue in that terrible Diſorder, try'd it lately; and reſtor'd its Credit.

From his Account, ſome who dared, for the public Benefit, leave the beaten Tract of Practice, determined they would give it a fair Tryal here: but this an Accident had nearly fruſtrated. The diſhoneſt Herb-ſellers not having the Plant, ſold under its Name the common Nightſhade, call'd, from its frequent Appearance as a Weed upon cultivated Ground, Garden Nightſhade.

This had great Effects; and encouraged the Gentleman who us'd it, the eminent and ingenious Mr. GATAKER, to whom the Public owes the eſtabliſhing the Virtues of Nightſhade in *England*, to hope greatly from it, tho' it effected no perfect Cure: and he has ſince given it in other Caſes with vaſt Succeſs. I have now put into his Hands a growing Plant of the true Kind, and he is uſing it ſucceſsfully.

The Effects of it are Vomiting, Purging, and Sweats. The Leaf is the Part uſed; and the Doſe an Infuſion of half a Grain.

Its Safety under this Regulation being eſtabliſhed, and its Effects known, thoſe who have Opportunities, and Humanity, are invited to uſe it. It will be Virtue in all who have Skill, to try the Medicine; and thoſe who do not know where otherwiſe to obtain the true Plant, are welcome to as much as they want from me. From a Multitude of ſuch Trials the Fact will be aſcertain'd: and I am able to acquaint the Public, that beſide the ſucceſsful Experiments firſt made with it in *England* by Mr. GATAKER, at the *Weſtminſter* Infirmary; Dr. PITCAIRN and Mr. NOURSE are at my Requeſt now uſing it in two deſperate Caſes at *St. Bartholomew*'s Hoſpital; and Dr. CLEPHANE at *St. George*'s. It may be proper alſo to uſe it outwardly at the ſame Time.

From Trials under various Hands, eſtabliſhing or correcting one another, its Virtues will be truly aſcertain'd; and probably a greater Medicine brought into Uſe than any known at preſent.

If any are terrified at the Name of its being poiſonous, they will be found among the Patients, not the Preſcribers; and they may be told, what the others well know already, that Antimonial Preparations have been prohibited; and that one of the greateſt Medicines now known, is the Corroſive Sublimate of Mercury, long conſidered as a moſt fatal Poiſon.

* * *

CHAP. II.

The Care and Management of the Ground.

LET all Weeds be deſtroyed at this Seaſon with more than ordinary Care, for 'tis their Seed-time, and one that ripens them, will lay the Foundation of an innumerable Progeny.

Let the Ground be broke frequently about thoſe Plants which are to flower late in Summer, and thro' the Autumn; and when it appears too dry, let them have moderate Waterings. Cut off ſtraggling Branches, tye up the reſt with the main Stem, where neceſſary, and form the ſpreading Plants in Time into good Heads.

We directed the Gardener laſt Week to open the Cups, or as he calls them, the Pods of his Carnations, in ſeveral Places, with a Pair of Sciſſars; to favour the ſpreading regularly of the Petals: let him now examine whether what he then did was ſufficient, or they yet want more Room: if he find them in Danger of burſting in any one Part, let him open the Slits he made at that Time, a little farther. The Beauty of this elegant Set of Flowers, will depend greatly upon this Article, and their Duration upon their being properly ſhaded.

Their Elegance, and his Trouble in bringing them to Perfection, demand all the Attention that can now be ſhewn them, for the keeping them in Bloom as long as their Nature will admit.

As ſoon as the Petals begin to ſpread themſelves out, the Flowers muſt be covered with Glaſſes, to ſecure them from Moiſture; and great Care muſt be taken to preſerve them from the Heat of the full Sun, which will be felt the ſtronger thro' the Glaſſes. The taking theſe off at ſuch Times will not anſwer the Purpoſe, for the Sun is too powerful alone; nor does the Method ſome uſe of oiled Paper, inſtead of Glaſs, anſwer the Purpoſe. The great Art of preſerving Flowers long in Bloom, is to ſcreen them abſolutely from the Noon-day Sun, and this can be no Way ſo well done, as by the covering theſe Glaſſes with ſomething that will not let the Rays through. Some Gardeners uſe a Cabbage-Leaf; but as there is no Intent of any thing more than Shade, it is wrong to take a Subſtance in which there is Coldneſs and Moiſture. What I have found beſt is a Piece of green Baize, which being cut to the

Shape of the Glaſs, is to be let over it from Ten in the Morning to Five in the Afternoon, if the Flowers be open to ſo much of the Sun. This is always to be uſed in bright Weather; but when it is cloudy, the Air being more freely admitted is an Advantage.

The Glaſſes muſt be ſupported at a moderate Height above the Flowers, that they may not choak them; nor, on the other Hand, admit the Dews too freely under them: and the Flower muſt be kept at ſuch a Diſtance from the Stick, to which the Stem is tyed up, that it may ſpread out freely, and not touch it.

From Time to Time let them be watered, and they will thus be brought into Bloom, in a Manner that promiſes long Duration.

This Week is a very proper Time for inoculating ſome of the delicate Kinds of Roſes, which do not freely produce Suckers.

The fitteſt Stocks are thoſe which will ſhoot the moſt freely, and of all theſe the *Francfort* Roſe is the beſt. The Damaſk may be uſed, and ſome other of the free Shooters, but there is none better than the firſt we have named. It is of little Value elſe, for the Flowers ſeldom open well; but it communicates nothing of that Property to the new Kind, tho' it gives all the expected Advantage of free Shooting.

The yellow Roſe is very proper to be budded on the *Francfort* Kind; and when planted in a clear Air, and good Expoſure, will open its double Flowers in Perfection.

The Cleanneſs of the Shoots in this *Francfort* Kind, is one conſiderable Advantage; for the Roſes of theſe fine Sorts are very tender to inoculate, and every one knows, in ſuch Caſes, how important it is to have a good ſmooth and even Stock: for the reſt, the common Care of Inoculation, and nothing more, is required. The Evening of a cloudy Day is beſt for the Purpoſe; and a great deal of Care muſt be uſed in cutting off the Buds, and fixing them according to the Methods we have directed.

SECT. II.

The Management of the NURSERY this Week.

THIS Week it will be proper to inoculate ſome of the earlier Peaches and Nectarines. Thoſe Fruits are nearly allied to one another, and the ſame Stock ſerves for both. They may be very well propagated upon the Muſcle Plum and the white Pear Plum, but the beſt is the green Gauge.

Theſe Stocks may be raiſed either from the Stones or from Layers; but, to ſpeak from Experience, thoſe from Stones are better. The Green Gauge Stock ſuits much better than any different Tree for theſe; but the fineſt Fruits of all will be produced by rebudding them upon the vigorous and healthy Kinds of Peaches. Thoſe upon the Plum Stocks are perhaps the longer lived Trees; but theſe bear the beſt Fruit, and of the trueſt Flavour.

The Stalks ſhould be of two Years Growth when they are budded, and the great Article is a good Choice of the Cuttings: theſe muſt be taken from Trees of the Kind deſired to be propagated, and from ſuch as are in themſelves healthy, vigorous, remarkable for bearing a large Quantity of Fruit, and ſuch as is well flavoured, and has in Perfection all the Marks and Characters of the Kind.

Let the Evening of a cloudy Day be choſen for the Purpoſe; and every thing being prepared for the Work, as we have directed under a former Inſtance, let no more Cuttings be taken off, than can be uſed at that Time: and let all the Expedition be made in doing it, that is conſiſtent with the neceſſary Care and Exactneſs.

Five and Twenty Days after the Operation, is the Time for examining which have taken, and which not. Thoſe which then appear plump and fair, may be truſted as having ſucceeded, and the Bandage muſt be looſened to prevent Strangulation.

The following Spring the Stock muſt be cut off a Finger's Length above the Bud, and the Shoot riſing from the Bud muſt then be tied up to this Part of the Stock that is left above, to ſecure it from Accidents.

When the Trees are to be planted out into the Garden, a proper Soil muſt be prepared for the Borders, and they muſt be allowed a good Diſtance. Neither of theſe Articles are ſufficiently obſerved, and 'tis for that Reaſon our Fruit in general in *England*, is much inferior to what it is capable of being in our Climate.

The Breadth of the Border is the great Article; for though the Roots will run under Gravel-Walks, and even into the Ground beyond, yet it is in the Border itſelf they find their great Nouriſhment, and ſpread their numerous uſeful Fibres.

The Breadth of this ſhould be proportioned to the intended Height of the Tree: the greater Quantity of Wood is to be nouriſhed, the more ſhould be the Compaſs. It is a good general Rule, when the Trees are intended to be planted at moderate Diſtances, to allow the Breadth of the Border to be equal to the Height of the Wall.

If the Soil be naturally tough and clayey, it will be neceſſary to throw in at the Bottom ſome Rubbiſh, or Brickbats, to carry off the Wet; and on the other hand, if the Bottom be naturally too looſe and open, it will be adviſeable, at a due Depth, to lay in ſome Clay to prevent the Moiſture from running off from the Roots too faſt. In either Caſe the Mould ſhould be dug out a Spade and half deep; and the Bottom being made according to the Nature of the Ground, the Compoſt ſhould be laid in, and raiſed eight Inches above the common Level.

This ſhould be made in the following Manner: take up ſome rich Paſture Mould with the Turf, and add to every Load of it two Buſhels of Pigeon's Dung, one Buſhel of Lime, and one and a half of Wood Soot.

Let theſe be well mix'd together by frequent Turnings; and when the Turf is all rotted among the Ingredients, it will be fit to uſe.

The proper Depth of this in the Border is a Spade and half below the Surface, and about eight Inches above it: but this muſt be more or leſs according to the Nature of the Ground: the moiſter the Place is, the higher the Border muſt be raiſed; for a great Article is keeping the Roots dry.

One Thing more is of Importance, which is the preventing their rooting too deep; and this will be effectually done by the Bottoms we have order'd to be laid in, which ever kind is uſed.

Thus much being underſtood, the Gardener will know what he is to do, and what to expect in his planting of Fruit Trees: and theſe Preparations being made, we ſhall in the ſucceeding Weeks inform him what he is to do farther.

SECT. III.

POMONA, or the FRUIT-GARDEN.

LET the Gardener continue this Week the Management of all Wall and Eſpalier Trees, as directed in the preceding Numbers, rubbing off thoſe Shoots that appear in wrong Places; and training thoſe to the Wall, or Rail, that come out in a proper Direction. They will thus be prevented from ſhading the Fruit too much, and all will go on regularly.

In the Wall Trees there ſhould be little Violence uſed with them at preſent, long Loops, and looſe nailing will be ſufficient; and they may be reduced more perfectly to order afterwards.

In the Eſpaliers, inſtead of Oſier Twigs, the beſt binding is Baſs ſoaked in Water; and the tying ſhould be looſe at preſent, and brought tighter afterwards.

By this Management of the Eſpalier the Fruit will ripen upon it very well; and of whatever Kind it is, the free Paſſage of the Air between the Branches will give it the true Flavour of its Kind.

The original of the Eſpalier was on this Account: Fruit Trees, whoſe Branches naturally hang down, were found much injured by their galling each other; and as they in this Kind of Growth crowded, and hung over one another, the Fruit was little in Quantity, and ill taſted.

This put judicious Gardeners in mind of giveing ſuch Boughs a Support, and that naturally produced the Eſpalier; for a regular Framework was better ſuited to this Purpoſe than any other Form; and Trees ſo ſupported, made a kind of Hedge that look'd agreeable, and took up little Room in the Garden, while it ſeparated the Walks and Quarters, and produced excellent Fruit.

This Origin of the Contrivance let the Gardeners always remember; and he will manage his Trees, of whatſoever Kind, properly.

Branches kept at due Diſtance, and well ſupported, have all the Advantage requiſite to many Kinds of Fruit: they have Diſtance, Sun and Air; and whatever Species require nothing more, are as fit for Eſpaliers as for Walls. They ſhould always be train'd to theſe, that the Walls may be reſerved for thoſe Kinds, which being Natives of warmer Climates, require more Heat.

We have mention'd ſome beſide the common Kinds, that are very well ſuited to the Purpoſe, and given the Method of pruning them. As to the common Sorts, few Directions will ſerve.

The fitteſt Pears for Eſpaliers are thoſe upon Quince Stocks. They ſhould be raiſed with a double Stem; and their Branches, as they will this Way have no great Length, may be the more numerous: but if any of them ſhoot to a greater Length than half the Diſtance between the Stems before they bear, it will in that Caſe be beſt to reduce the Tree to one Stem.

It will be always an Advantage to the young Eſpaliers, to let the Trees looſe from the Frame toward Winter, that they may have the Benefit of thorough Air, and of the Dews, before the Time of pruning and faſtening up again.

Apples for Eſpaliers ſhould be propagated upon Paradiſe, Creeper, or Codling Stocks; thoſe on Crab Stocks are altogether improper for this Service.

Filberds make a very good Eſpalier, and they will bear to be planted cloſer than the other Kinds.

They no way produce their Fruit in greater Perfection.

SECTION IV.

CHLORIS, *or the* KITCHEN-GARDEN.

THIS Week will be a very proper Time for planting out thoſe ſweet Herbs that have been raiſed from Seed, and are yet in the firſt Beds.

For this Purpoſe a Piece of Ground muſt be well dug, and the Mould broke fine.

The Seedlings muſt be planted out by Lines drawn lengthwiſe and acroſs the Bed, at different Diſtances according to their various Sizes. They ſhould have good Room allow'd for growing, and they muſt be water'd and ſhaded till they have taken root.

The common Miſtake in the Management of theſe, is planting them too cloſe; but unleſs they are allow'd a due Diſtance, they will not have their true Vigour, or full Flavour.

Nor is there any Thing gain'd by thus crowding them together: for a Bed of any given Meaſure, will yield a larger Quantity for cutting, from a ſmall Number of Plants that have the proper Scope, than from a larger, which ſtarve and choak up one another.

Young Salletting is in leſs Repute now the larger Kinds are in Seaſon; but it may be rais'd in as great Perfection at this Time as in any other. Thoſe who chuſe it ſhould have it ſown once in ſix Days for a Succeſſion, for it ſoon grows too large for Uſe.

The Chardoons will now be fit for planting out in the Places where they are to be blanch'd, and good Preparation muſt be made for them. A Piece of Ground muſt be choſen of ſufficient Extent, and it muſt be very thoroughly dug up two Spades deep.

On this Lines muſt be drawn at a Yard and half aſunder, lengthways and acroſs; and the Plants regularly let into theſe at equal Diſtances, one in the Centre of every Square: there will thus be Opportunity to earth them up as they grow, and they will attain a great Height and Delicacy.

The Time of ſaving Seeds from many of the Kitchen Garden Products is now come; and let the careful Gardener here imitate, in ſome degree, what we have directed for the Floriſt.

Let them always ſtand upon the Plants till well harden'd; and then be thrown upon a Mat, or Cloth, in an airy Room to dry in their Pods for ſome Time, before they are rub'd out of them.

When clear'd from the Huſks, let them again be thin ſpread out ſeveral Days; and they will thus get that perfect hardening, which will render them fit for keeping or ſowing, according to their ſeveral Natures.

Let thoſe Parts of the Ground which require weeding, be very thoroughly clear'd; and let the Crops, when freed from that Incumbrance, be water'd; they will grow more in two Days after this, than in a Week before.

Finally, let the Gardener pick up all Kinds of Vermin with Care, for it is the Time of many of the Kinds breeding.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XLI.

For the laſt Week in *JUNE.*

SECTION I.

FLORA, *or* *the* PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. The NONPAREIL DAFFODIL.

June.

Pl. 41. Fig. 1.

WE have deſcribed to the Gardener many valuable Daffodils, but there yet remain two or three others, which by proper Management are capable of being kept to this late Seaſon; and thence acquire a new Value. The preſent Species is one. It was early diſtinguiſhed by the Writers on Plants; and obtained, from its great Size and fine Colouring, very honourable Names: the *Incomparable*, the *Nonpareil*, and the *excellent Daffodil.*

The *Latin* Authors have called it *Narciſſus maximus*, and *omnium maximus*, the greateſt Daffodil: and C. BAUHINE, *Narciſſus latifolius pallidus, calyce amplo:* Broad-leaved pale Daffodil, with a great Cup.

LINNÆUS, who has reduced under a very few Heads the ſeveral Daffodils, allows this elegant Flower no more than the Diſtinction of a Variety: he refers it to the common or baſtard Daffodil, which he names *Narciſſus ſpatha uniflora, Nectarii limbo rotato, campanulato erecto, patulo equale:* One-flowered Daffodil, with the Verge of the Nectarium rotated and bell-ſhaped, erect, open and equal.

The Root is bulbous, oblong, formed of numerous Coats, and full of a ſlimy Juice.

The Leaves are oblong, broad, obtuſe, of a greyiſh green Colour, and firm Subſtance. There uſually riſe about three of theſe from one Root, and with them a firm and upright Stalk, two Foot high, naked, and of the ſame pale greyiſh green Colour; and at the Top ſtands a ſingle Flower.

June.

It is at firſt encloſed in an oblong Scabbard, filmy, and of a pale green: this burſts ſideways, to let out the Flower, and ſoon after withers.

The Flower is compoſed, as in the other Daffodils, of ſix Petals and a Nectarium, called from its Form, the Cup of the Flower. This is ſmall at the Bottom, and wider all the Way to the Top, where it is very elegantly dented and ſinuated.

The Petals riſe from its Outſide toward the Baſe, and are oblong, obtuſe, and plain. The Cup and Petals are proportioned to one another; both very large. The Colour in both is yellow, but the Petals have the Tinct pale, and in the Cup it is deeper.

Within the Cup ſtand ſix Filaments, fixed to its Inſide, and crowned with oblong Buttons; and in the Centre riſes a Style, ſingle, and crowned with a three-parted Top.

The ſix Filaments ſhew it one of the *Hexandria* of LINNÆUS; the ſingle Style one of the *Monogynia.*

The Style riſes from a rounded Rudiment under the Receptacle of the Flower, which afterwards ripens into a roundiſh Seed-veſſel, with three Ridges; containing, in three Cells, numerous round Seeds, with a ſmall Appendage; and a columnar Receptacle.

Culture of this NARCISSUS.

We have ſaid it is a Creature of the Gardener's Art; and the ſame Management which firſt raiſed, muſt preſerve, and may improve it.

The Seeds which ripen freely, ſhould be ſown in the Manner we have directed for the other *Narciſſus's*; and the young Plants treated with the ſame Care. They will ſhew a great deal of Variety: ſome Flowers will be larger, others ſmaller; ſome better coloured, others worſe; and there will be ſome double, or at the leaſt ſemi-double.

Theſe muſt be ſeparated (the largeſt and beſt coloured, with the double and ſemi-double Flowers) into a Bed by themſelves; the others planted to ſupply Vacancies, and give Variety in common Borders.

From the Seeds of the ſemi-double there may always be raiſed perfectly double Flowers, and theſe, as well as the fineſt of the ſingle, may be afterwards encreaſed by Off-ſets. The Manner of doing it is in nothing particular: the whole Management muſt be the ſame as in the other *Narciſſus's*.

2. HAIRY CURASSO PURSLAIN.

T. 41. 2. The Singularity of this Plant, and its pleaſing Irregularity of Growth, have a Right to ſtand in the Place of a more gaudy Beauty. The Uſe of ſuch in Collections is very proper and very great: they promote the Study of Botany, and mix Curioſity with Elegance.

The old Writers could not be acquainted with this, for it is native only of Countries diſcovered ſince their Time: but moſt who have written on the *American* Plants have named it.

The Characters of Purſlain are ſo plainly marked on it, that none have refered it to any other Genus, but they have deſcribed it under various Additions. PLUKENET calls it *Portulaca lanuguioſa procumbens, vermiculatæ foliis Americana*; and COMMELINE, *Portulaca Curaſſavica, anguſto longo, lucidoque folio procumbens:* Purſlain of *Curaſſo*, with long, ſhining narrow Leaves.

LINNÆUS, more accurate in his Diſtinctions, calls it *Portulaca foliis ſubulatis alternis, axillis piloſis, floribus ſeſſilibus:* Alternate ſubulate-leaved Purſlain, with hairy Angles, and Flowers without Footſtalks.

The Root is compoſed of many long white Fibres.

The Stalks are numerous, weak, gloſſy, lightly hairy, and thrown about in various Directions; ſome upright, ſome oblique, ſome lying on the Ground.

Their Colour is naturally a pale green; but they are often ſtained with purple.

The Leaves are numerous, and placed alterternately: they are long, narrow, ſharp-pointed, of a pale but freſh and pleaſing green, and gloſſy as the Stalks.

The Flowers terminate the Stalks, and often riſe alſo from the Boſoms of the Leaves, ſometimes ſingly, ſometimes two or three together.

They are not large, but very conſpicuous from their Poſition and Colour; they ſtick cloſe by the Baſes to the Stalk, and they are of a very delicate Crimſon. Round about thoſe which terminate the Stalks, there ſtand eight or more Leaves; like the others in Form, but diſpoſed as the Rays of a Star; and about the Baſes of theſe, and in the Angles made by the others with the Stalk, there is uſually a light Cottony Matter.

Each Flower has its Cup: this is ſmall, formed of a ſingle Piece, ſplit into two Parts, and compreſſed at the Top: it ſtands upon the Rudiment of the Seed-veſſel, and remains with it.

The Flower itſelf is compoſed of five plain, erect, and obtuſe Petals, and in the Midſt ſtand numerous ſhort capillary Filaments, with ſimple Buttons.

From the Rudiment of the Fruit riſes a ſingle ſhort Style, crown'd with a Head, divided to the Baſe into five Parts.

The Seed-veſſel is oval, and the Seeds are numerous and ſmall.

The Number of the Filaments is properly twelve, but in this there is great Uncertainty, uſually they are more. Fifteen is a very common Number; and this being in a ternate Ratio to the Diviſions of the Head, appears very natural. LINNÆUS has however placed it among the *Dodecandria*; and the ſingle Style refers it to the firſt Diviſion of that Claſs, the *Monogynia*.

Culture of this PURSLAIN.

It is a Native of *South America*, an Annual, and requires ſome Care in its Management: but it deſerves the Pains. The Flowers, tho' ſmall, are pretty, the Colour of the Petals is very fine, the Buttons are yellow, and the Heads of the Style purple; and there is therefore a pleaſing Variety.

The Seeds muſt be ſaved when ripe, and in *February* ſowed in a Pot of rich Garden-Mould, plunged to the Rim in a Bark-Bed.

When the Plants riſe they muſt be thined, and afterwards two or three of the faireſt may be planted out into ſeparate Pots, which muſt be removed into the Stove, and there treated in common with other Plants, ſuffering them to grow their own Way; in which ſome of the Branches will fall down, and cover the whole Pot.

3. AMETHYSTINE MUSCARI.

Pl. 41. Fig. 3. We call this Flower by its received Name, but are to tell the Gardener that it is properly a *Hyacinth:* the eſſential Characters are all the ſame with thoſe of that Genus; the Difference is nothing but that the Flower is globular; and this ſlight Variation in Form, LINNÆUS does not admit as a Generical Diſtinction.

So long as we have cultivated Flowers this has had a Place in our Gardens, and all who have written on Plants have deſcribed it. Thoſe have added it to the Number of *Hyacinths*, who have preſerved the Name *Muſcari* without the other; but the more Correct have called it by the proper Term.

C. BAUHINE calls it *Hyacinthus racemoſus moſchatus:* the muſky racemous *Hyacinth:* And LINNÆUS, *Hyacinthus corollis ovatis:* the *Hyacinth*, with oval Flowers. They have led themſelves into Confuſion, who have attempted to diſtinguiſh it into ſeveral Species from the Colour of the Flower, for there is no Plant in which that is ſo variable.

The Root is large, round, white, compoſed of numerous Coats, and hung about at the Bottom with many, thick, and permanent Fibres.

The Leaves are long, conſiderably broad, obtuſe at the End, thick, and of a pale green; hollowed a little, ſtriated, and thrown upon the Ground in various Directions. When they firſt appear, they have often a Stain of ſhining Crimſon, but it goes off as they encreaſe in Bigneſs.

The Stalk is naked, round, very thick, yet weak, and of a pale Colour, ſtained more or leſs with red.

The Flowers ſtand in a Spike, covering it from the Top half way down; and they are oval and hollow, largeſt at the Baſe, ſmall at the Neck, and ſpreading a little again at the Mouth.

Their Colour we have obſerved is very variable; and in the ſeveral Stages of the ſame Flower, it never fails to change conſiderably. In the yellow Kind the Gradation is this:

The Flowers at their firſt Appearance are of a pale whitiſh Olive; as they grow to Perfection they attain a more and more agreeable yellow; and in their State of Decay, they are blackiſh.

In ſome Plants the Flowers are of a perfect and unſtained White; in others, of a delicate bloody Red, or Crimſon: the Amethyſt, or the Burgundy Colour, is ſeen in others; and in the moſt common of all, the Colour is a dull Purple tinged with Green: this has more of the Green while the Flowers are young, and the Colour afterwards becomes of the Violet Hue.

In all theſe States the Plant is very agreeable. The Fragrance is greateſt when the Flowers are paſt their full Bloom; and it is moſt delicate in the amethyſtine Flowers, but the ſtrongeſt in the yellow ones.

There is no Cup to the Flower; and it is compoſed of a ſingle Petal. The Rim is divided lightly into ſix Segments; and at the Top of the Rudiment are ſeen three Openings: theſe are the Nectaria.

The Filaments are ſix; they are ſhort, and the Antheræ are convergent. The Style is ſhorter than the Flower, ſingle, and crowned with an obtuſe Head. The Seed-veſſel is three-cornered, and contains about ſix Seeds, in three diſtinct Cells.

The ſix Filaments ſhew the Plant one of the *Hexandria* of LINNÆUS, and the ſingle Style refers it to the *Monogynia*.

Culture of this HYACINTH.

It is a Native of *Aſia*, but has been more than two hundred Years brought into our Gardens. It is a very hardy Plant; and becauſe it will grow freely, has been too much neglected. The Size and bright Colouring of the Flower are the Articles of its Value, and theſe may be greatly encreaſed by a right Management.

In its native Country it loves a deep light Soil, and never thrives ſo well as when under the Shade of a Thicket: this we ſhould imitate in Gardens.

The beſt Compoſt for it is thus made:

Paſture Earth two Buſhels, Pond Mud a Buſhel, and Wood-Pile Earth and old Cow-dung of each a Peck.

Let theſe be mixed in Spring, and in *July* they will be fit for Uſe.

The common Way of propagating the Plant is by Off-ſets, they encreaſe abundantly, and grow freely; this is therefore the eaſy Method, but the beſt is to do it from Seed.

Let this ripen upon a healthy and ſtrong Plant: let it be gathered and hardened, as we have directed on other Occaſions, and in the End of *Auguſt* ſown.

If only Off-ſets are uſed, let a Bed be made up in the Garden in *July*, and ſome good ones planted, at ten Inches Diſtance.

If the Seeds be ſaved, a ſhaded Part of the Nurſery muſt be choſen, the Compoſt thrown in, and the Seeds ſcattered on, and covered a Quarter of an Inch. They muſt be managed as other ſeedling bulbous Plants, but being hardy they will require leſs Trouble.

When they come to Flower the beſt muſt be ſeparated, and planted in the Garden in a Bed of the ſame Compoſt; and from the fineſt of theſe muſt be ſaved Seeds for another Sowing.

The Flowers produced from theſe, will ſhew all that Variety of Colouring we have named, and will be much larger than what are uſually ſeen: nor can the Gardener get the *Muſk Hyacinth* in Perfection any other Way.

When ſome Roots of the fineſt Kinds are thus obtained, they muſt be managed with due Care, and they will preſerve themſelves in Perfection, and afford numerous Off-ſets. Every Year they muſt be taken up, when the Flower-ſtalks and Leaves

June. Leaves are decayed; and the Off-ſets being ſeparated, the old Roots muſt be planted again in freſh Compoſt.

The Off-ſets will be ſmall, and they ſhould be planted one Year in a Nurſery Bed, and after that be diſtributed in various Parts of the Garden. June.

4. ÆTHIOPIAN ADONIS.

Pl. 41. Fig. 4. The Botanical Writers have not been long acquainted with this Plant; nor have thoſe who firſt met with it well underſtood its Characters. Till LINNÆUS, none found its proper Genus: it has been refered by almoſt every Author who named it, to a different one.

BOERHAAVE and BURMAN call it an *Actæa* and *Chriſtaphoriana:* COMMELINE, an *Æthiopian Ranunculus*; and our PLUKENET, an *Imperatoria.* So much Reſemblance of the *Crowfoot* Kind thoſe alſo diſtinguiſhed in it, who called it by the moſt foreign Generical Names, that they in general added *Ranunculoides.*

LINNÆUS, who refers it to the proper Head, *Adonis*, adds, as its Diſtinction, from the others, *fructibus depreſſis, foliis duplicato ternatis, ovatis ſerratis: Adonis*, with duplicately ternate Leaves, oval and ſerrated, and with depreſſed Fruit.

The Root is compoſed of numerous white Fibres, connected to a ſmall Head.

The firſt Leaves are ſupported on long firm whitiſh Footſtalks, and each is compoſed of three Parts, each Part of three leſſer Leaves, or ſometimes more than that Number.

The natural Diviſion of the Footſtalk is thus into three Parts, and the natural Number of Leaves on each of theſe is three; but ſometimes there are five, and ſometimes they are in the whole fewer; the two Side Diviſions having only two Leaves, and the middle one three. Thus the whole radical Leaf, when perfect, conſiſts of nine ſmaller Leaves; when imperfect, of ſeven; and when redundant, of thirteen. In either Caſe it is very handſome.

The ſeparate Leaves are of a firm Subſtance, of an oval Figure, notched irregularly at the Edges, and of a blackiſh green.

The Stalk is round, firm, branched, and eight Inches high. The larger Leaves toward the lower Part of this are placed in Three's, and are of the ſame dark green with thoſe from the Root; on the upper Part of the Stalk and on the Branches, they are irregularly placed, and narrow.

The Flowers terminate all the Branches, in large Numbers, and they are of a faint yellow, with a Tinge of greeniſh.

The Cup is compoſed of five little oval, hollowed, and fading Leaves, of a yellowiſh Colour. The Body of the Flower is formed of an uncertain Number of Petals, from five to fifteen, according to the Age of the Plant, and various Accidents of Growth: they are obtuſe, and ſtand open. In the Midſt there are numerous ſhort Filaments; and in the Middle of theſe a Cluſter of Rudiments of Seeds: theſe have no Styles, but each its proper Head, which is pointed and bent back.

The Filaments riſe from the Receptacle of the Flower; and this, with their Number, ſhews the Plant to be one of the *Polyandria:* the numerous Rudiments refer it alſo to the *Polygynia*, the laſt Subdiviſion under that general Head.

Culture of this ADONIS.

It is a Native of the warmeſt Parts of *Africa*, and with us cannot be raiſed but by the Aſſiſtance of artificial Heat. The Seeds muſt be ſown in *February*, in a Pot of common Garden-Mould, and raiſed in a Bark Bed, with thoſe of other Plants of the ſame warm Countries.

Two or three of the ſtrongeſt muſt be ſaved, and planted out in ſeparate Pots, and afterwards brought into the Stove.

The Method we have delivered before; and the Trouble is little, when we conſider that nothing is done particularly for theſe Plants, but they are raiſed in common among others of more Beauty and Value.

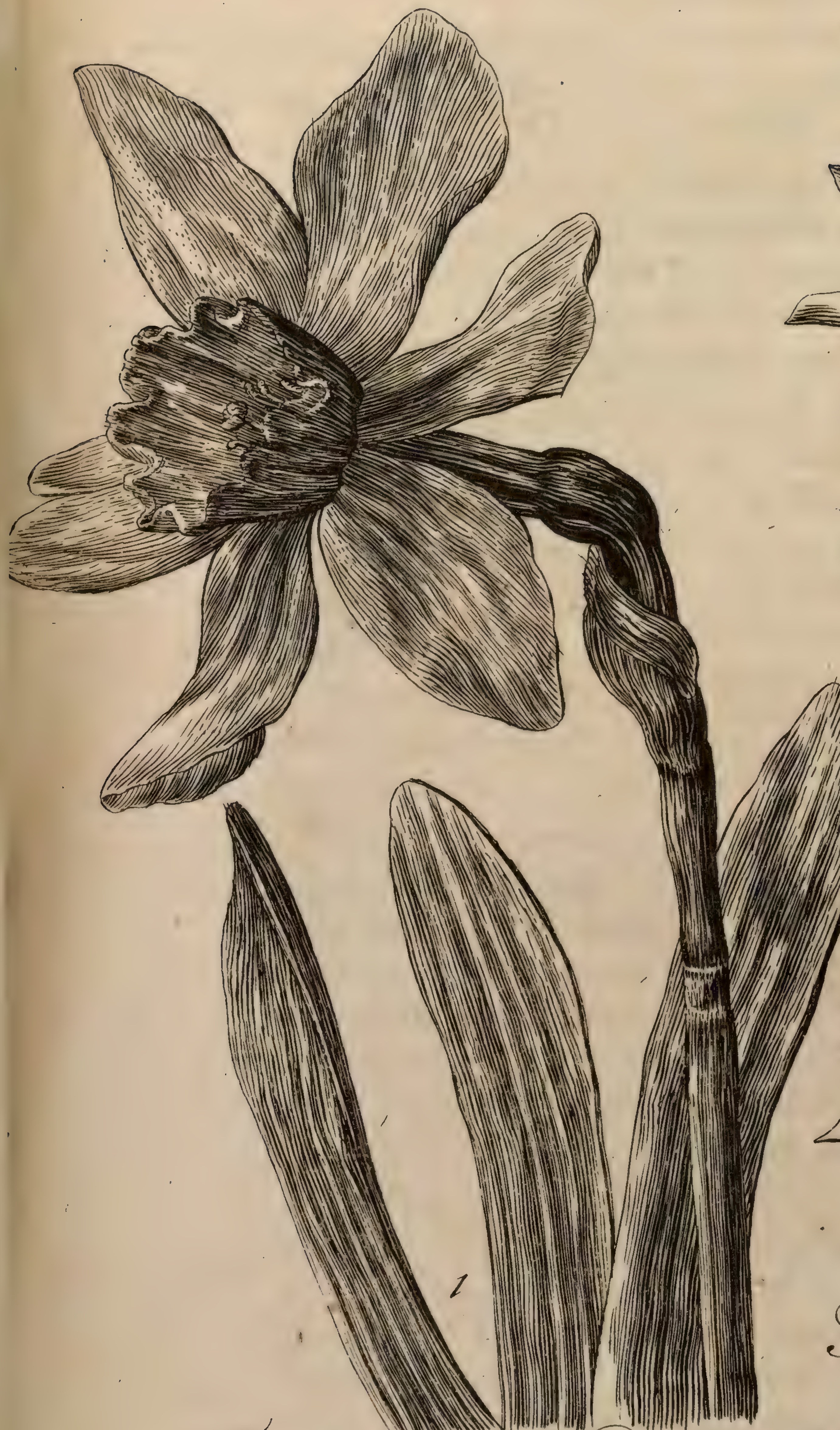
5. GREY STARRY HYACINTH.

Pl. 41. Fig. 5. The Gardener has been told, on a preceding Occaſion, that the Starry Hyacinths are properly of the Squil Kind. When we have acquainted him that the common Names of this Species are, *Hyacinthus ſtellaris flore cineritio*, and *Hyacinthus ſtellaris multiflorus cineritius*, we are to add, that LINNÆUS refering it to its proper Head, *Scilla*, adds, as the Character of the Species, *radice ſolida, corymbo conferto hæmiſpherico:* Solid-rooted Squil, with a cluſtered and rounded Head of Flowers.

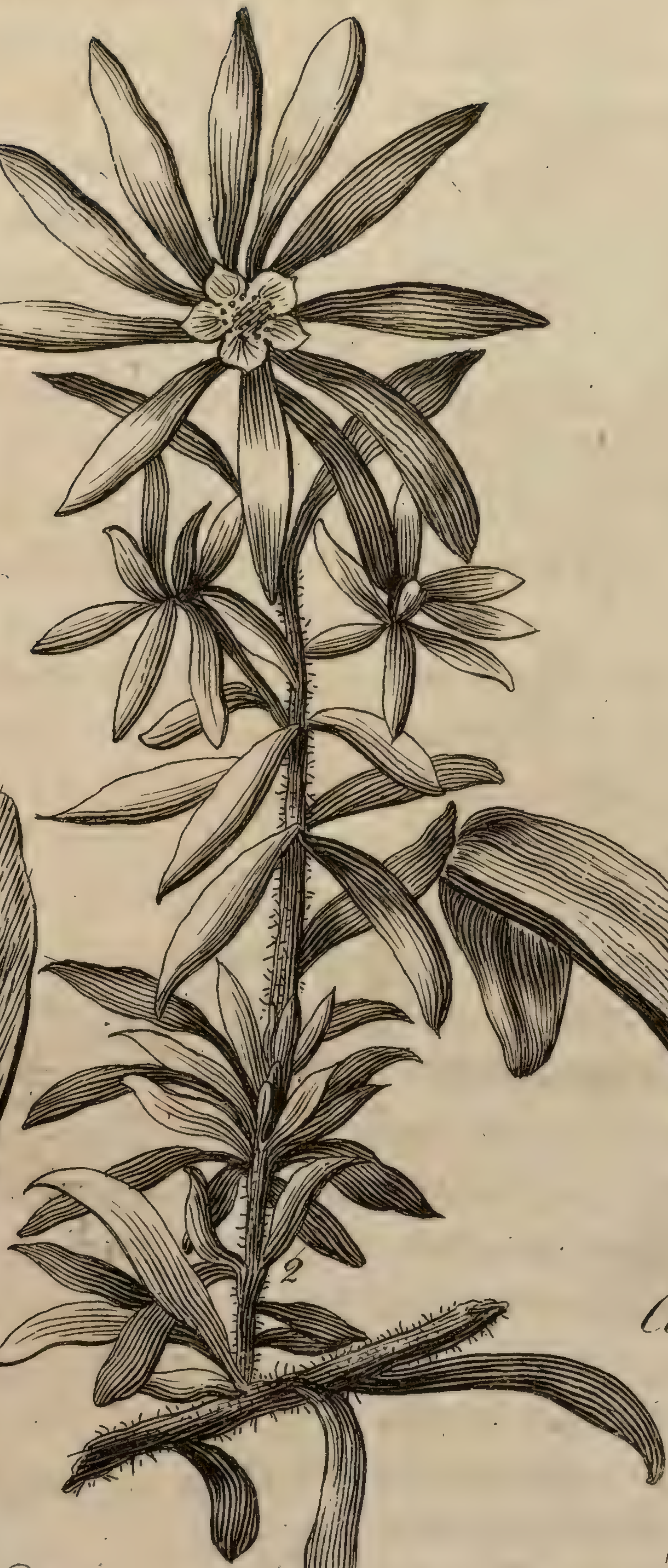
The Root is roundiſh and white, and is hung with many Fibres at the Baſe.

The Leaves are numerous, long, moderately broad, ſtriated, and of a faint green.

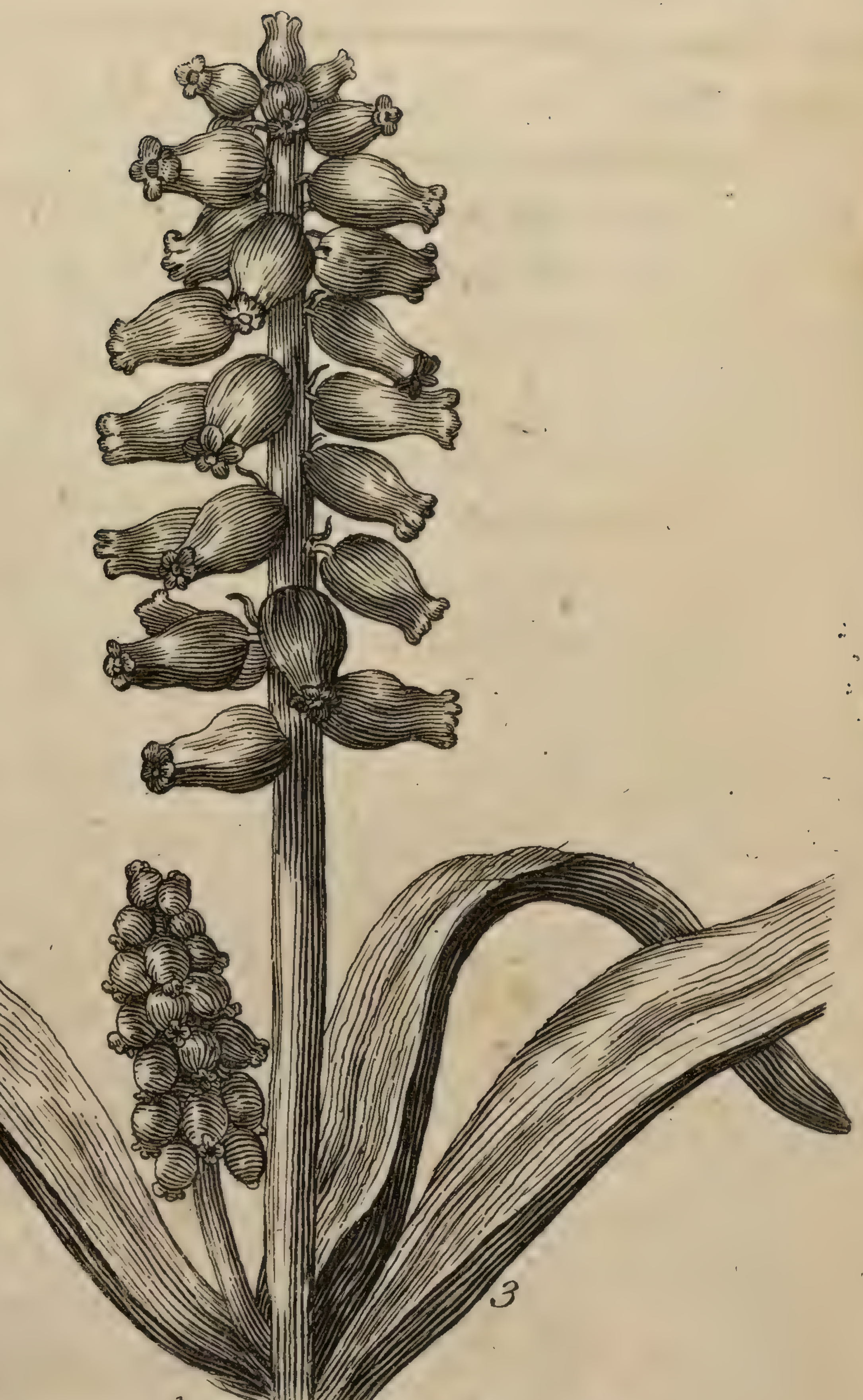
The Stalk is round, thick, of a pale green,



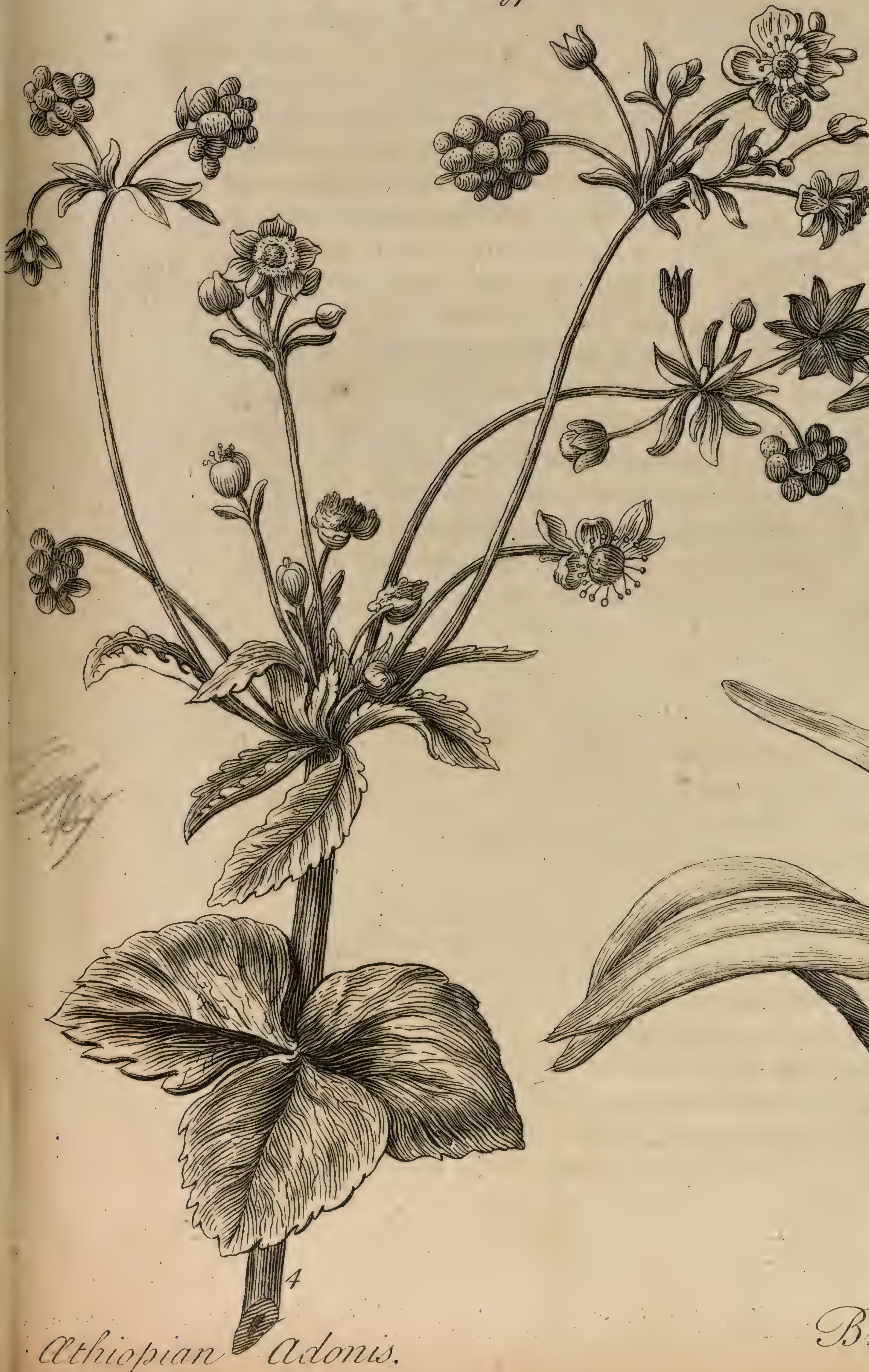
The Nonpareil Daffodill



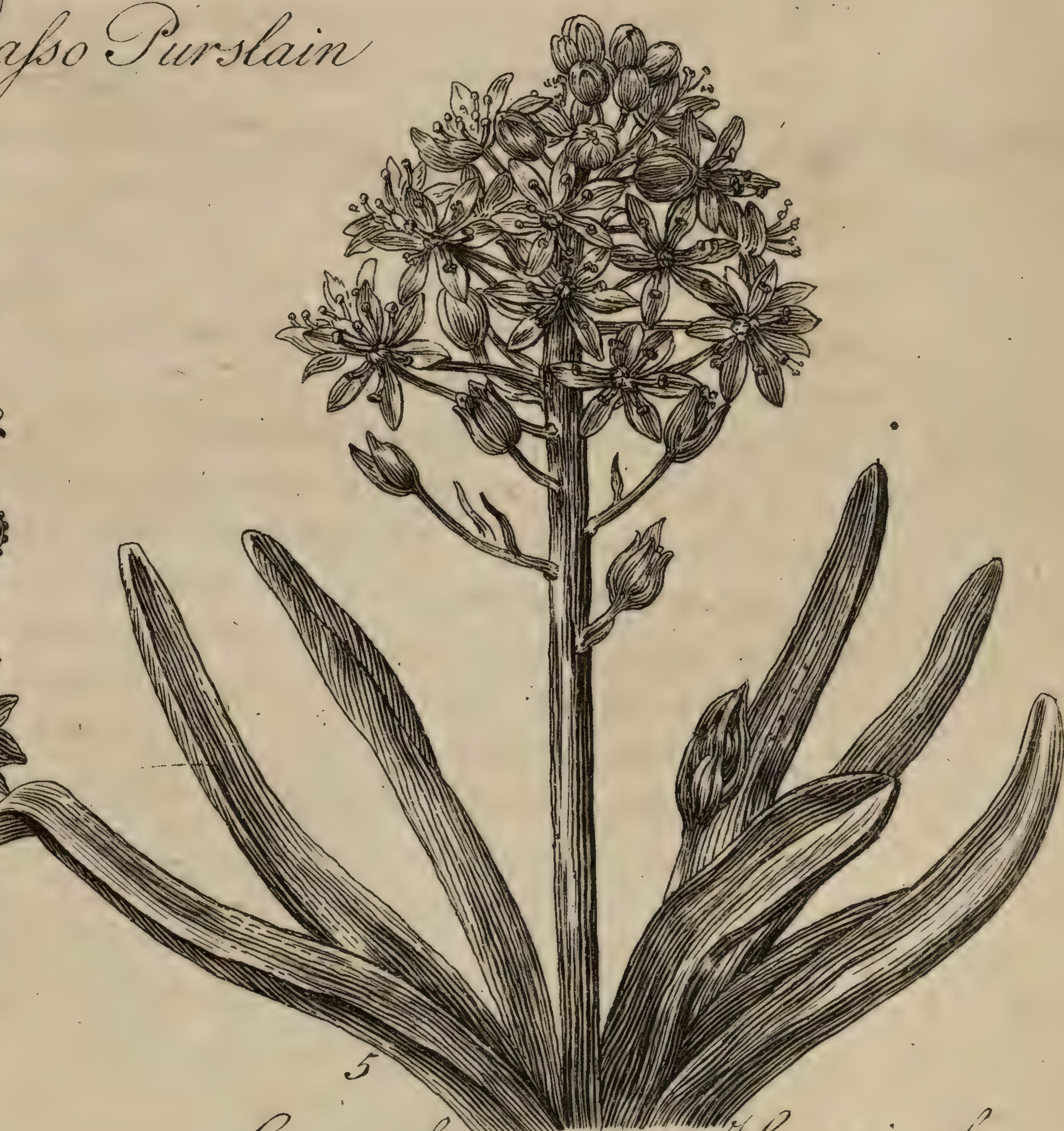
Hairy Curaſso Purslain



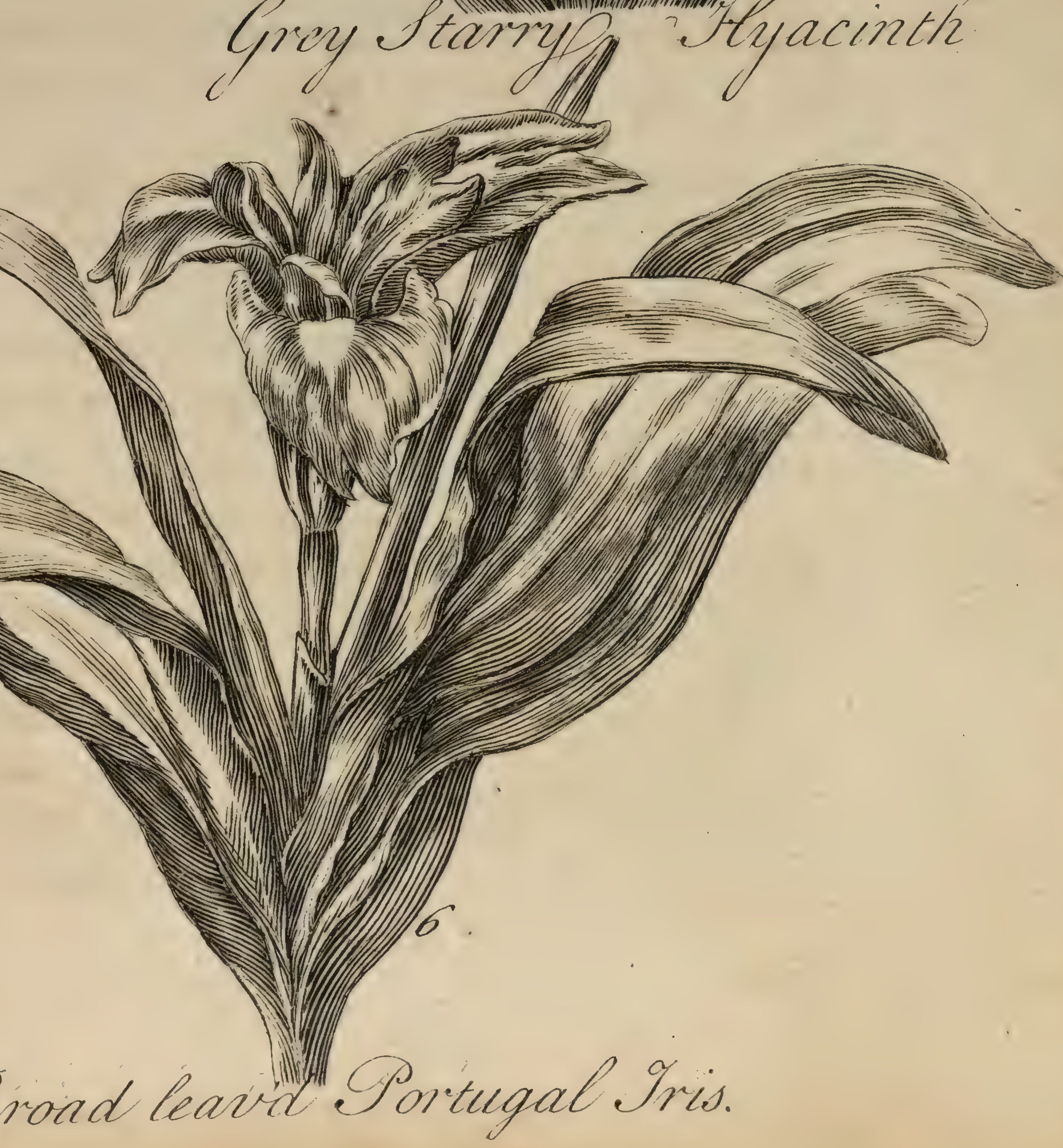
Amethystine Muscari



Æthiopian Adonis.



Grey Starry Hyacinth



Broad leav'd Portugal Iris.

June. and naked. The Flowers are numerous, and they crown the Top in a broad Tuft.

Their Colour is a very delicate pearly grey: the coarſe Language of our common Writers names it aſh Colour; and the Smell is very delicate.

There is no Cup to the Flower.

Its Body is compoſed of ſix oval Petals, which ſtand expanded in the Manner of Rays of a Star. Within ſtand ſix ſhort Filaments with oblong incumbent Buttons; and in their Centre from a roundiſh Rudiment, riſes a ſimple Style of the Length of the Filaments, and crown'd with a ſingle Head.

The ſix Filaments ſhew the Plant to be one of the *Hexandria* of Linnæus, and the ſingle Style refers it to the *Monogynia*.

Few of the Genera of Plants have been more confounded than the Hyacinth; few Inſtances ſhew more ſtrongly than that, the ſlight and imperfect Regard they had to the real, eſſential, and I muſt ſay alſo, obvious Characters, impreſſed by Nature in the Flowers of Plants, who firſt arranged and diſpoſed them for the Student.

We ſee in this Inſtance a Plant altogether different from the Hyacinths join'd with them under the ſame Name. Its Flower compoſed of ſix Petals, and that of the Hyacinth of one, could not be received as a Diſtinction; and yet the ſame Authors who joined this to the Hyacinth, ſeparated the proper Species of that Genus into different imaginary ones, under as many diſtinct Names. They allowed the Term Hyacinth only when the Body of the Flower was tubular and oblong; when ſhorter and more ſwoln at the Baſe, they erected a new Genus, under the Name *Muſcari*, and ſo of the others. 'Tis to Linnæus we owe the fixing of what are, and what are not generical Characters, and the juſt Diſtribution.

Culture of this HYACINTH.

We do not know with Certainty the Native Country of this elegant Flower. Besler calls it *Italian*, and many follow him; but they miſtake his Senſe, who ſuppoſe he meant that it was wild in *Italy*. He found it there firſt in Gardens. It has been very long familiar in our own, and the Culture is eaſy: but let not this be an Occaſion of neglecting it: the Gardener who ſhall beſtow a proper Attention in raiſing it from Seeds, and adapt a right Soil, and often enough renew it, will raiſe the Flower to a Degree of Beauty they never ſaw who have only been uſed to it treated in the common Method. June.

Let the Compoſt be made for it thus:

Mix a Barrow of rich Meadow Earth with a Buſhel of Wood-pile Mould, a Peck of Fowls Dung, and two Pecks of Sand; throw this up in a Heap in Autumn, and let it lie till the Autumn following.

When the Plants are in Bloom, mark one of thoſe for Seed which has numerous large Flowers, a firm Stalk, and not too many Leaves.

Let the Seed from theſe be ſaved with the Cautions we have given on like Occaſions; and in *Auguſt* a Bed in the Nurſery open to the South Eaſt being made up with this Compoſt, let the Seeds be ſown upon it.

The young Plants are to be treated in the ſame Manner as the other bulbous Kinds; and when brought to flower, the Seeds of ſome of the fineſt thus raiſed, are to be ſown in the ſame Manner. Thus will be obtain'd from the ſecond Sowing, the moſt perfect Flowers this elegant Plant is capable of producing; and theſe Roots are to be propagated farther by Off-ſets.

The Bed in which theſe are planted muſt be of the ſame Compoſt, and it muſt be renewed every Year.

The Roots muſt always be taken up as ſoon as the Stalks and Leaves are faded; and their Off-ſets taken away at that Time. This is a very needful Caution; becauſe if they are left on, they will make the Plant flower weak the ſucceeding Year. They are too ſmall to flower themſelves when taken off annually, but they will encreaſe to the full as well in a Nurſery Bed as with the Parent Plant. Therefore the true Conduct is to ſeparate them every Year, and to plant them in the Nurſery; from whence a Parcel may thus be every ſucceſſive Year taken out for the Garden; while at the ſame Time the original Roots are kept clear, and the whole Strength of Nature is given to their flowering.

This is a Method proper to be obſerved in many others, as well as this Hyacinth; and will be a Way at once to encreaſe the Number, and keep the old Stock in Perfection.

6. BROAD-LEAVED PORTUGAL IRIS.

Pl. 41.
Fig. 6.

The Family of the *Iris*'s is very extenſive: Nature has given a great Number of Species; and the Varieties of theſe added by Art, are altogether innumerable. This is a very elegant Kind, originally diſtinct, and very different from the others in its whole Form.

The Authors who have written of Flowers have named it; and none of thoſe who have given Hiſtories of the *Europæan* Plants have omitted its Deſcription.

Clusius names it the firſt among the Dwarf *Iris's*, *Chamæiridis*; C. Bauhine calls it *Chamæiris variegata*; and others, *Iris humilis latifolia flore violaceo*: low broad leaved Iris, with a Violet colour'd Flower.

Linnæus, more diſtinct in his Names, calls it, *Iris corollis barbatis caulem uniflorum ſuperantibus:* bearded Iris with one Flower, and broad Leaves riſing above the Stalks.

The Root is thick, tuberous, long, and white; it ſpreads under the Surface, and is of an acrid Taſte.

The Leaves are numerous, broad, and ſhort; they riſe many together, and are of a deep but ſomewhat blueiſh green; of a firm Subſtance, and mark'd with three or four longitudinal Ribs.

The Stalk riſes in the Midſt of theſe, and is about two Inches high; roundiſh, irregular, knotted, and cover'd in part with ſome ſlight Membranes.

On its Top ſtands one beautiful and very conſpicuous Flower: it is of the ſame Form with that of the common Flower-de-luce; and its natural Colour is a fine Violet blue, but ſometimes it is variegated with yellow; in various Degrees and Forms, and often with great Elegance.

There is no Cup to the Flower; and it is form'd as in the others, of ſix Petals; three of which ſtand erect, and three turn back. Theſe all are united at their Baſes; and in their Centre riſes a ſhort Style, crown'd at its Top with three leafy Diviſions. They hang in a wild and fantaſtical Manner, and reſemble three additional Petals; this is common to the reſt of the Iris's.

The Number of the Filaments refers the Plant to the *Triandria*, the third Claſs in the LINNÆAN Syſtem; and the ſingle Style to the *Monogynia.*

The Diviſions of the Head, tho' very large, are not counted; but the Body of the Style on all Occaſions, where there is any; and this there evidently is in the preſent Inſtance, tho' it be ſhort.

The Iris's like the Hyacinths have been idly divided by Authors into different Genera. When the Leaves are ſubulated, and the Root a ſingle Bulb, they have had the Name of *Xiphium*; when the Bulb is double, or the Root, as in ſeveral Inſtances, is compoſed of two Bulbs, the one lying upon the other: the Name given has been *Siſyrinchium.*

When the Root is tuberous, and the Leaves ſquare, the Name has been *Hermodactylus*; and when the Leaves are Sword-like, and the Root fleſhy and creeping, theſe Authors have given the Name *Iris.*

TOURNEFORT has led all the common Writers into that Error; but at this more improved Time of Science, all theſe falſe Diſtinctions are rejected. The Characters of Genera are to be ſought only in the Flowers of Plants: theſe are the ſame in the Flowers of all theſe Kinds; therefore the Difference of Roots and Leaves, are to be conſider'd as nothing more than Diſtinctions of Species.

Thus LINNÆUS has determin'd, who has joined the *Xiphium*, *Siſyrinchium*, and *Hermodactylus* of that Author, under the common Name *Iris*, with the Plants uſually diſtinguiſh'd by the ſame Appellation; bringing together all the other as united by Nature, and allowing theſe Characters what they really are, diſtinctive Marks of Species, and nothing more.

Culture of this IRIS.

The Plant is a Native of *Portugal*, and ſome other Parts of *Europe*, where it thrives beſt on the rocky Sides of Hills; and where there is little Mould, but that very rich and delicate. This muſt give the Gardener the Rule for its Culture. In Nature are laid the Foundations of his Art, and he will always ſucceed in Proportion to the Attention which he ſhews them.

The Advantages of this Plants growing in rocky and confined Situations are very conſpicuous. When there chance to be Roots of it in full Ground, near the Sides of Rivers, as is not unfrequently the Caſe, the Flowers are always of a ſimple tho' ſtrong blue; but when it has leſs Earth and more Sun in thoſe rocky Situations we have named, the Flower varies extreamly: there are Streaks and Spots of yellow, white, and Fleſh Colour; and in Variety, tho' not in Luſtre, it exceeds all we ſee of it in Gardens.

Beſide this Mixture of Colouring in the Flower, it has in thoſe Situations alſo frequently another pleaſing Variation, of which ſome other of the Iris's are capable; this is the ſtaining of the Leaves with yellow and with white. It gives a moſt pleaſing Aſpect to the Plant, becauſe the Leaves are more conſpicuous than in many others that have this accidental Tinge, and 'tis a Thing we ſhould labour to introduce into the Garden.

Nature is to be followed in this as in the preceding Inſtances; and he who would imitate judiciouſly what ſhe does, muſt obſerve the Way in which ſhe does it.

Let him for this Plant make up a rich Compoſt, and ſave Seeds with Care. Let him mix a Buſhel of Garden Mould, with the ſame Quantity of Earth from under a Wood-pile, and three Pecks of Cow Dung; with a Quart of Sand, two Quarts of Soot, and two Ounces of Sea Salt. Let this lie ſix Months expoſed to the Air in a Heap, often turn'd; and then add to it a Peck of Lime, freſh made. Let it be well wrought together, and turn'd often; and thus let it lie half a Year longer.

The beſt Time to make the firſt Mixture is Autumn; then in Spring the Lime may be added, and in the Autumn following the Compoſt will be fit for the Reception of the Seeds.

This Particularity and Time in the preparing of Compoſts, will ſeem to the common Sale Gardener an idle Buſineſs; the waſte of much Time, and a kind of Trouble which no Price for the Flowers can anſwer. 'Tis not to him we give the Directions: we may once for all remind him, that one light Compoſt may ſerve in the Place of another; and that common Garden Mould will ſupport moſt Plants.

He who is to ſell his Roots at a limited Price, can allow them only a proportion'd Degree of Culture: but there are thoſe whoſe own Satisfaction is the ſole End of raiſing them: to theſe the Labour is an Amuſement; and they will think no Trouble too much that will enrich their Store.

With reſpect to the others; we believe if they would

When this is done, let a little Earth be drawn up about the Stem, and the Plant is in Perfection for flowering. So long as the Buds remain unopened, the Waterings muſt be large, and they ſhould be given all over the Plant; but when the Flowers open they muſt be more moderate in Quantity, and given with greater Care.

The general Rule is this:

A Plant in flower ſhould be watered as often as one in the Bud, but leſs ſhould be allowed at a Time: for the Buds themſelves are vaſtly favoured by the Water coming upon them before they begin to diſcloſe the Petals of the Flower, yet when that begins to open, this Method muſt not be ſuffered any more.

In ſingle Flowers, the Water coming upon them when blown, will waſh the Duſt of the Buttons upon the Petals, and by that Means ſpoil the Colour of both: and in double Flowers ſome Drops of it will always lodge among the Foldings of thoſe multiplied Petals, which will rot the Receptacle, or the Baſes of the Petals, and the Flower will fade before its Time.

In thoſe Plants which are intended to ſtand for Seed, the Article of Watering while in Flower muſt be more ſtrictly regarded than in all others, for the Ripening of the Seed depends in a great Meaſure upon the regular ſhedding of the Duſt from thoſe Heads; and this cannot fail to be interrupted by waſhing them, in this Way of Watering.

Seeds will ſometimes ripen under great Diſadvantages: but even tho' they ripen under them, they will be affected by them: they will acquire their full Growth and Form, but the Principle of Vegetation will be weak.

This would be a great Hurt to the Floriſt who ſhould fix upon ſuch a Plant for Seed; and unleſs the Method of watering upon the Flowers be utterly aboliſhed, there cannot eaſily be any Security againſt it; for he makes his Choice of thoſe Plants that are to ſtand for Seed when the Flowers are full blown; and this Damage is often done while they are opening.

For this Reaſon, and in Conſideration of the Beauty of the Flower, there ſhould be an invariable Rule, never to water the Top of a Plant when the Flowers are opened. It will be eaſy for a judicious Hand, with a good Pot, to throw the Water in among the Leaves and Branches of a Plant, without letting any touch the Head, or other Parts where the Flowers are placed.

This is the true Method of watering Plants in flower; and this, according to their Kinds and natural Place of Growth, and according to the Seaſon, ſhould be repeated every Evening, one Hour before Sun-ſet, all the Time they are in flower.

This Care being taken of thoſe Flowers which bear Culture in the open Ground, let our Gardener look to his Greenhouſe Plants which are now ſet out for Summer; and into the Stove.

Let him ſtir the Earth on the Surface in all the Pots; and, where there is Occaſion, bring in a little from ſome Compoſt ſuited to the Nature of the Plant, ſpreading it over the Surface, and gathering it up about the Stem. This done, let them pick off all dead or decaying Leaves, rub and waſh away any Foulneſs upon their Stems, and even upon the Leaves of thoſe Kinds which have large ones; and according to the Condition and Nature of the Plants, let them have the Benefit of Watering.

In theſe ſeveral Articles, which are all neceſſary to the Welfare of the Plants, let Diſcretion guide the Gardener; and let him ſet it down here, as well as in other Inſtances, as an everlaſting Rule, That it is better to do too little, than too much; tho' he never ſhould neglect to do ſomething.

For Inſtance: in the ſtirring of the Earth about the Roots of theſe Plants, let a great deal of Care be taken not to wound or too much diſturb them. Our own Natives will bear very rude Uſage, as we ſee in the Autumnal Management of fibrous-rooted Plants; but theſe, which are all of them Natives of milder Climates, are much more tender, and more eaſily hurt.

The Point of a Trowel is commonly uſed for this Purpoſe of ſtirring the Earth at the Surface of the Pots and Tubs; but it would be eaſy to invent a more proper Inſtrument. The three-pronged Fork, uſed for digging up the Borders in which Fruit Trees grow, would be a good Model: ſuch a Thing made in Miniature, with the Tongs blunt at the Points and Edges, would be the beſt of all Tools for ſuch a Purpoſe: this would ſtir the Mould without wounding the Roots; and if it raiſed any of the ſmall Parts with the Soil which covered them, they would get no Harm by it, becauſe their Bark would not be wounded. They would fall regularly in the Pot again; and the ſmall Covering of new Mould would preſerve them from the Injuries of the Air till they had taken good Root again.

With this Inſtrument, or with whatever other Kind the Gardener uſes, he muſt obſerve this Caution: firſt let him conſider whether the Plant be one whoſe Root is fibrous, or tuberous; whether it be one that ſhoots deep, or ſpreads under the Surface; and let him proportion the Depth to which he removes, or ſtirs the Earth accordingly.

In all theſe Caſes, it will be an Advantage to the Plant to remove as much of the old Earth as can be ſafely taken off; and to this Purpoſe ſome freſh Soil from one of the Heaps of Compoſt muſt be brought to the Place before the Work is begun, that it may be immediately laid in upon removing the other.

The Method I have found moſt ſucceſsful in doing this uſeful Buſineſs, is this:

After chuſing the Compoſt from ſuch a Heap as was either made purpoſely for the Plant, or is of a Nature ſuited to it, I move the Earth gently to ſuch Depth as it can be done without Injury to the Roots: then with my Fingers draw this off to one Side, and pour it out of the Pot. Inſtantly I put in as much of the Compoſt as ſupplies the Place of what was taken away; and then give a gentle Watering, with Water that has ſtood all Day in the Sun. This fixes and ſettles the new Mould about the Ends of the Roots; and upon this Quantity thus wetted, I throw a little more Mould.

From two or three of the beſt of thoſe in the Pots let him now ſave Seeds; and raiſe a freſh Stock of Plants in the ſame Manner: theſe will not fail to be an Improvement upon the others; and thus he who chuſes to devote ſome Hours from Year to Year to this elegant Amuſement, will from Period to Period improve his Stock. After two or three Succeſſions, he will be able to ſhew the common Gardener the Reward of his Attention: he will produce Flowers from this Iris, which will be conceived by ſuch a one to be a new Kind. Many who pretend to the Art, will not be brought to believe it can perform ſo much as he will ſee on this Occaſion.

CHAP. II.

The Care and Management of the Ground.

THE Flower Garden may at this Time be conſider'd as containing three different Series of Plants. 1. Thoſe in Flower. 2. Thoſe whoſe Bloom is paſt, and which are left for Seed; and, 3. Such as are growing up to Perfection for the Autumn.

According to this Diſtinction the Gardener is to underſtand the Buſineſs of the preſent Week. There are ſome Things they all require in common, others which muſt be ſuited to the particular Condition of each.

Weeding is of the firſt Kind: they all require this, and let it be done carefully. The Hoe is a dangerous Inſtrument at this Time in any Hand; and moſt in the unſkilful.

The Planting of the Borders does not allow ſuch Diſtance in the Plantation as ſhould admit the Spade, therefore every Thing in this Matter muſt be now done by Hand; and none ſhould be employ'd but ſuch as are careful.

We will not ſuppoſe a Garden at this Time of the Year ſo neglected, that the Weeds can be run up to the Height of the cultivated Plants; and there are no young ones at this Seaſon brought into the Ground. The Danger therefore is not of pulling up the flowering Plants with the Weeds; but an ignorant and careleſs Perſon may ſhake out the Seeds from thoſe the Gardener has nurſed up to that State with the utmoſt Care; and deſtroy all his Expectations.

When the Beds are carefully and perfectly weeded, every Plant will ſhew itſelf diſtinctly; and let him now manage them according to their ſeveral Kinds and Conditions.

Let him firſt look over thoſe in flower. Let him take off ſuch Flowers as are paſt their Beauty; and give theſe Plants every Evening a gentle Watering, not only on the Ground, but over the Leaves.

This done, let him examine thoſe which are ripening their Seeds. If any new Bloom offers upon theſe, let him take it off. The Flowers at this Time will never be fine, yet they will ſtarve and hurt the Seed. Let him ſtir the Mould all about the Plants with a Trowel; and if the Seed be young, let him allow gentle Waterings, but thoſe Plants which have it full grown muſt have none.

In theſe and the others, let him ſee that the Sticks to which they are tied up, ſtand firm and ſecure: and then let him paſs to thoſe autumnal Kinds which are now coming to their Growth, and preparing for flowering. Part of theſe are the Annuals which have been removed out of the Hot-beds, and part the ſeedling Biennials of the laſt Autumn from the Nurſery.

The Care is to be the ſame in both Kinds; for whether raiſed in Hot-beds, or the open Air, they have now been long enough kept in the free Weather to bear the ſame Regulations. Sticks according to our Directions have been thruſt down by theſe, proportion'd to the Heights of the Plants when they come to flowering. As they have riſen above the laſt Tyings, let them be now faſten'd up again.

The right Management in this Reſpect of tying up, is to do it often, and at ſmall Diſtances; and the Stalk ſhould always be brought near the Stick, but never preſſed to it.

Let the Gardener take Care to uſe green Worſted, not Baſs; that being of the Colour of the Plant it may be leſs ſeen; and never let him leave any dangling Ends.

There is nothing ſo uſeful as the keeping up the Stalks of Plants ſtrait while growing, and firm, from the Effect of the Wind, but there is a great Slovenlineſs in the uſual Way of doing it.

At this Time if there be any ſtraggling Branches, which diſgrace the Growth of the Plant, let them be removed; and when thus brought to order, let it have a full, free Watering, Leaves, Buds, and Soil. Thus treating every one in this State of Growth, they will have the full Advantage of their Kind and Culture.

If any of them are full grown, let the Head of the Stick be cut off to the Level of their Top Branches: for the Art is to preſerve the Plant upright in its Growth, and yet to conceal the Means by which it is done; and a rough End of a Stake ſtanding up above the Plant at once betrays this, and diſguſts the Eye. Care muſt be taken in the cutting off this Top of the Stick; for if it be attempted haſtily, and with a dull Knife, the Stick will be ſhook, and the Plant with it: for its Stalk is thus tied up often, and the whole Plant muſt feel any Violence done to it.

When this is done, let a little Earth be drawn up about the Stem, and the Plant is in Perfection for flowering. So long as the Buds remain unopened, the Waterings muſt be large, and they ſhould be given all over the Plant; but when the Flowers open they muſt be more moderate in Quantity, and given with greater Care.

The general Rule is this:

A Plant in flower ſhould be watered as often as one in the Bud, but leſs ſhould be allowed at a Time: for the Buds themſelves are vaſtly favoured by the Water coming upon them before they begin to diſcloſe the Petals of the Flower, yet when that begins to open, this Method muſt not be ſuffered any more.

In ſingle Flowers, the Water coming upon them when blown, will waſh the Duſt of the Buttons upon the Petals, and by that Means ſpoil the Colour of both: and in double Flowers ſome Drops of it will always lodge among the Foldings of thoſe multiplied Petals, which will rot the Receptacle, or the Baſes of the Petals, and the Flower will fade before its Time.

In thoſe Plants which are intended to ſtand for Seed, the Article of Watering while in Flower muſt be more ſtrictly regarded than in all others, for the Ripening of the Seed depends in a great Meaſure upon the regular ſhedding of the Duſt from thoſe Heads; and this cannot fail to be interrupted by waſhing them, in this Way of Watering.

Seeds will ſometimes ripen under great Diſadvantages: but even tho' they ripen under them, they will be affected by them: they will acquire their full Growth and Form, but the Principle of Vegetation will be weak.

This would be a great Hurt to the Floriſt who ſhould fix upon ſuch a Plant for Seed; and unleſs the Method of watering upon the Flowers be utterly aboliſhed, there cannot eaſily be any Security againſt it; for he makes his Choice of thoſe Plants that are to ſtand for Seed when the Flowers are full blown; and this Damage is often done while they are opening.

For this Reaſon, and in Conſideration of the Beauty of the Flower, there ſhould be an invariable Rule, never to water the Top of a Plant when the Flowers are opened. It will be eaſy for a judicious Hand, with a good Pot, to throw the Water in among the Leaves and Branches of a Plant, without letting any touch the Head, or other Parts where the Flowers are placed.

This is the true Method of watering Plants in flower; and this, according to their Kinds and natural Place of Growth, and according to the Seaſon, ſhould be repeated every Evening, one Hour before Sun-ſet, all the Time they are in flower.

This Care being taken of thoſe Flowers which bear Culture in the open Ground, let our Gardener look to his Greenhouſe Plants which are now ſet out for Summer; and into the Stove.

Let him ſtir the Earth on the Surface in all the Pots; and, where there is Occaſion, bring in a little from ſome Compoſt ſuited to the Nature of the Plant, ſpreading it over the Surface, and gathering it up about the Stem. This done, let them pick off all dead or decaying Leaves, rub and waſh away any Foulneſs upon their Stems, and even upon the Leaves of thoſe Kinds which have large ones; and according to the Condition and Nature of the Plants, let them have the Benefit of Watering.

In theſe ſeveral Articles, which are all neceſſary to the Welfare of the Plants, let Diſcretion guide the Gardener; and let him ſet it down here, as well as in other Inſtances, as an everlaſting Rule, That it is better to do too little, than too much; tho' he never ſhould neglect to do ſomething.

For Inſtance: in the ſtirring of the Earth about the Roots of theſe Plants, let a great deal of Care be taken not to wound or too much diſturb them. Our own Natives will bear very rude Uſage, as we ſee in the Autumnal Management of fibrous-rooted Plants; but theſe, which are all of them Natives of milder Climates, are much more tender, and more eaſily hurt.

The Point of a Trowel is commonly uſed for this Purpoſe of ſtirring the Earth at the Surface of the Pots and Tubs; but it would be eaſy to invent a more proper Inſtrument. The three-pronged Fork, uſed for digging up the Borders in which Fruit Trees grow, would be a good Model: ſuch a Thing made in Miniature, with the Tongs blunt at the Points and Edges, would be the beſt of all Tools for ſuch a Purpoſe: this would ſtir the Mould without wounding the Roots; and if it raiſed any of the ſmall Parts with the Soil which covered them, they would get no Harm by it, becauſe their Bark would not be wounded. They would fall regularly in the Pot again; and the ſmall Covering of new Mould would preſerve them from the Injuries of the Air till they had taken good Root again.

With this Inſtrument, or with whatever other Kind the Gardener uſes, he muſt obſerve this Caution: firſt let him conſider whether the Plant be one whoſe Root is fibrous, or tuberous; whether it be one that ſhoots deep, or ſpreads under the Surface; and let him proportion the Depth to which he removes, or ſtirs the Earth accordingly.

In all theſe Caſes, it will be an Advantage to the Plant to remove as much of the old Earth as can be ſafely taken off; and to this Purpoſe ſome freſh Soil from one of the Heaps of Compoſt muſt be brought to the Place before the Work is begun, that it may be immediately laid in upon removing the other.

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The next Morning I draw up ſome about the Stem, and thus the whole Operation is finiſhed. Experience has ſhewn me this is the true Method; and the preſent Week is a very proper Seaſon.

This done to the Plants in general, the Orange Kind, which is the principal Glory of a common Conſervatory, will require a particular Attention. The great Beauty of this Tree is when loaded with Fruit; and in this unfavourable Climate there is no Method of attaining that Excellence, but by a due and timely Attention.

A great Part of the Oranges produced on our Trees, fall off during Winter; and 'tis very rare that the beſt of them attain their due Growth. Theſe fine Products are not enough regarded: we muſt remind the Gardener, that to ſucceed better he muſt allow them much more Care. The Rules of his Art are univerſal: thoſe we have laid down for the more common Fruit Trees will anſwer equally well for theſe. We ſhall only ſhew how he is to apply them.

The Danger of Fruits falling off is moſt while it is youngeſt; therefore the better Growth the Oranges attain before Winter, the more likely they will be to ſtand thro' that Seaſon.

The Orange Tree gets into Flower early, and its firſt Bloom is to be managed for Fruit. To this Purpoſe, when the Bloſſoms ſtand too cloſe, let him take ſome off. This thinning of them will ſtrengthen the reſt; and as ſoon as the Fruit is ſet, they muſt be thined again.

By this Time, thoſe Fruit which followed the firſt Flowers will have a fair Aſpect, and he ſhould carefully examine them. Let him leave as many as can have Room to grow to their Bigneſs; and the taking off the reſt will encourage theſe to a more free Growth.

On thoſe Trees which he ſees will ripen the moſt and beſt Fruit, he muſt be content to have no more Flowers.

We have juſt directed, that when Flowers break out upon a Plant that is ripening its Seed, they ſhould always be deſtroyed; and the ſame Rule ſhould hold here.

Whatever Buds offer for Flowering upon thoſe Trees which are thus managed for Fruit, ſhould be pulled off as ſoon as ſeen. It is too late to nurſe them up for Fruit, for they would be in great Hazard of falling off in the Winter; and in the mean time the Growth of theſe Bloſſoms will retard that of the other Fruit.

When they are not ſuffered to open, the whole Effort of Nature is to ripen the Fruit; and when the Fruit has been ſet thus early, and is managed with this Care, the whole Store, or very near the whole, will ripen.

In the mean time, as the Flowers of the Orange are very beautiful as well as fragrant, ſome other Trees of them ſhould be ſuffered to remain in the uſual Manner. Theſe will yield Abundance of Flowers, and the Approach of Winter will ſhew the Merit of the other Management for Fruit; for the Tree treated as we here direct, will be loaded with thriving Oranges, while theſe which have been left to Nature, and have exhauſted themſelves in flowering, will have very few that ſtand half the Winter.

This Care taken of the Greenhouſe Plants, let the Gardener look with a careful Eye over thoſe in the Stove. We have told him how neceſſary Cleanlineſs is in this Article; and there is no Time of the whole Year when he is ſo carefully to attend to it as now.

The Stove Plants will be more ſubject at this than any other Seaſon, to Filth upon their Stems, and Inſects upon their tender Shoots and Leaves: the Heat and Moiſture of the Air contribute, and the Seaſon favours them.

A Spunge and warm Water muſt be uſed, and if the Diſorder be great, the Water muſt be impregnated with Tobacco Stalks and Soot; every Part muſt be cleaned with this; the young Shoots and Leaves with the Spunge, and the Stems with a ſmall Bruſh firſt, and afterwards with a Flannel dipt in the ſame Water. This opens the Pores of the Plant, which are as neceſſary to Vegetables as to Animals; and it will be ſeen to thrive in a particular Manner after it.

If this be now neglected, the Miſchief will ſoon ſpread itſelf from one Plant to another. What begun in the Bark-Bed will be continued throughout every Part of the Stove, and the Miſchief which might eaſily have been ſtopped, while it was only upon two or three Plants, will give the Gardener a great deal of Trouble now it is univerſal; and after all this ſeveral of the Plants will be abſolutely deſtroyed, and many more greatly injured by it.

Two Days Pains this Week may ſave the Labour of Months hereafter.

SECT. II.

The Care of the NURSERY, for the preſent Week.

THE quick Growth of Weeds will be a great Trouble at this Seaſon to the Gardener, in this Part of his Ground. This is a kind of ſecond Spring in that Reſpect; and if Showers fall this Week, and the preceding, they will cover the Ground now as faſt as in *April.*

Among the Weeds as well as Flowers, there are the Vernal and Autumnal Kinds; the firſt are now paſt, but the latter are in their moſt haſty State of Growth; Sow-thiſtles, Nightſhade, and the innumerable and unconquerable Train of *Atriplex*'s now ſhoot up for Flower; and the whole Labour of the Spring muſt be repeated to extirpate them.

In the Seed-Beds this Work is tedious, for it muſt all be done by Hand; but it is in no Part ſo neceſſary: the Number and quick Growth of theſe wild Crops will ſtarve and choak the Seedlings, if neglected, in a very few Days.

In the more advanced Growths the Hoe is to be uſed, and it will make quick Riddance: but 'tis among the larger and diſtant Plantations that moſt Good of all will be done, for theſe admit the Spade.

Fewer Weeds riſe among theſe Trees of more advanced Growth; but none ſhould be ſuffered.

The whole Ground ſhould this Week be dug up, and the Clots well broke, and this will anſwer the Purpoſe of deſtroying Weeds moſt effectually, at the ſame Time that it gives a vigorous Growth to the Plantation.

If the Seaſon be dry, as it often is at this Time, Waterings, though troubleſome, muſt not be omitted: theſe will be moſt required on the Seed-Beds, becauſe the young Trees there are ſo ſlightly rooted, that the Sun's Rays would burn them up through the Mould.

In the tranſplanted Kinds leſs will be required, though ſome ſhould be allowed; but in the larger Growths, if the Spade have gone its full Depth, there will ſcarce need any. Their own Branches ſhade the Ground, and in ſome Degree prevent its parching up: the breaking of the Mould alſo ſerves in the Place of this Refreſhment of Water, for it makes it detain the Dews.

When the young Plantations are too much expoſed to the Sun, they muſt be ſhaded by a Reed-Hedge, and, in Proportion, watered more than the others: this will bring them well through the preſent Seaſon; and they will afterwards require much leſs Attention than if they had been neglected during the preſent Danger.

SECT. III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

Fruits in Seaſon.

OUR laſt Catalogue added early Cherries to two or three Kinds of early Apricots and Peaches. We can at preſent add but ſlowly to them; but next Month will encreaſe the Number abundantly.

With the Strawberries and early black and white Cherries, there will now come two or three more Kinds; and from the Forcing Frames Grapes and Plums. There will remain the Ruſſets of two or three Kinds from the laſt Year's Stores, and two or three Pippins. The Gooſeberries will begin to ripen in common Ground, and in favourable Situations it will not be difficult to add a Plate of them to the Table.

The Gardener ſhould take the Opportunity of gathering theſe early, for they have no other Value: they are too common to be regarded when other Fruits come in; but when there is a Scarcity of thoſe, and theſe come before their uſual Time, they may very well be admitted at the beſt Tables.

CHAP. II.

The Care and Management of Fruit-Trees this Week.

LET the Gardener now every Day look over his Trees of Wall-Fruit: there is no laborious Work to be done in this Quarter; but without the moſt ſtrict Attention, all the Pains of an earlier Time will be rendered fruitleſs.

Let him keep the Trees in Order, defend the Fruit from Injuries, and preſerve it from Vermin and all Kinds of Devourers.

All that is needful on the firſt Head, is the continuing his Care in rubbing off foreright Shoots, and training and keeping in their Places thoſe which he has ſuffered to remain from more proper Parts of the Wood.

With Regard to the defending of the Fruit, the great Article will be in preſerving the Leaves which grow about them. Theſe ſerve the excellent Purpoſes of drawing Nouriſhment to the Part where the Fruit grows, and defending it from the Sun.

If any Inſects appear upon theſe, let them be as carefully picked off, as if they came upon the Fruit itſelf. If no Care can preſerve the Leaves, let him ſupply their Place by others renewed from Time to Time.

If the Fruit by any accidental Loſs of Leaves be at this Time too much expoſed to the Sun, it will grow looſe in the Skin; and either periſh entirely, or never acquire its full Bigneſs, or true Flavour.

In this Caſe let the Gardener, when he has uſed all Arts in vain, to preſerve the Leaves that were about it, conſider whether he can bring any to ſhade it from another Part where they are not wanted. If this can be done, the Branch to which the Fruit owes this new Shade, muſt be ſaved in the right Poſition by nailing; and if nothing of this kind can be done, let the Gardener from Day to Day bring the Leaves of ſome

other

June.

other Tree, and fix them ſo as to ſhade the Fruit from the full Sun of Noon. This is but a poor Expedient, but it is all that Art can do, and it is much better than entire Neglect.

If the Fruit be of a late Kind, the Trouble will be too much for the Advantage; but if it be of a Kind that is to ripen early, this will anſwer ſo far as to be very well worth while. Neither this Addition of foreign Leaves, nor the ſhading the Fruit with thoſe from ſome other Part of the ſame Tree, anſwer the abſolute Purpoſe of Nature: for the original Leaves draw Nouriſhment, as well as give Shade; but if both cannot be attain'd, one is ſomething. The Leaves I have found ſucceed beſt are the Laurel; becauſe they are of a firm Subſtance, and do not ſoon decay.

June.

The laſt Care for the preſent Week is the looking after Vermin; Snails muſt be deſtroy'd in their Holes by Day, and when they crawl out of them at Evening, and at early Morning; and Neſts of Ants ſhould alſo be ſought after, and deſtroyed.

To this Care of the Fruit ſhould be added a Digging and Watering of the Ground; and the Stems of the Trees ſhould be kept perfectly clean from Moſs.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

CHAP. I.

Products in Seaſon.

THE Liſt of theſe encreaſes every Day; and indeed there are few of the Products of the Kitchen Ground, that with due Care, are not in Seaſon now. Cucumbers continue excellent, and ſome better Melons than thoſe of the Beginning of the Month may be had. Aſparagus yet continues, and there is no Time when Cauliflowers are in greater Perfection.

The ſecond Crop of Peaſe is now in Order, and Beans are never in finer Condition: there are alſo good Artichokes, Carrots; and Turneps are alſo fine; and Salletting in its full Glory. The Cos Lettice is in perfect Order; and thoſe who love Variety ſo well as to admit ſmall Salletting among the reſt, may have it, with the Management we have directed, as perfect as at early Spring.

CHAP. II.

Care and Management of the Ground.

LET a Couple of Pieces of Ground be dug up, and prepared for Celeri and Endive: and let the Gardener who has ſtudied his Buſineſs according to theſe Directions we lay down, prepare for both in a judicious Manner.

Dung is neceſſary in the Kitchen Ground on ſome Occaſions, but it is an Error to uſe it on all. In the preſent Inſtance it is altogether hurtful; it ſpoils the Taſte of both theſe Plants, and it makes their blanch'd Part ſubject to be eaten by Worms.

Few know the Virtues of freſh Land; and fewer ſtill the Difference in Taſte between thoſe Plants which are produced by Dung, and thoſe of the ſame Kind by means only of an unexhauſted Earth. The Fact is, that freſh Mould will produce the fineſt Herbage: but when it has been exhauſted by ſucceſſive Crops, ſome Enrichment is required; and 'tis Dung that generally is uſed.

In the preſent Caſe it is not needed: both theſe Crops will ſucceed better; be whiter, tenderer, and finer taſted by far without it.

When the Pieces of Ground are fixed upon for this Service, let the Gardener go into a rich, dry Paſture; and take from under the Turf as much Mould as will cover them four Inches deep.

Let him throw this upon the Pieces, rake it level, and draw off any large Stems, and then tread it down that it may dig well in. Let him then turn up the whole a full Spades Depth; and take Care to break and mix the Mould very well in.

Then let him draw Lines lengthway and acroſs for the Endive; bringing in the Plants, and putting them into the Ground with due Care, and at a fair Diſtance.

For the Celeri there requires more Management. This Piece is to be mark'd out by Lines only lengthway, and thrown up in Drills for the Plants.

The allowing a due Diſtance between theſe, as alſo between Plant and Plant, is the only Way of having the Growth in Perfection; but in the Kitchen Grounds where theſe Things are raiſed to ſupply the Markets, this cannot be expected. The Rent of Ground is too high; and the more Space is allowed to the Plants, the more Labour they take in the Management; for if the whole Ground be not dug up, the Room is uſeleſs.

Sand added to the Ground where Celeri is to be blanch'd, is uſeful alſo according to the Nature of the Soil; but this Addition of Paſture Earth anſwers every Way the beſt at this Seaſon: it does not render the ſame Piece unfit for other Crops; and in the Gentleman's Kitchen Garden there is generally Room enough.

E D E N:

A

Compleat Body of Gardening.

NUMBER XLII.

For the firſt Week in *JULY.*

SECTION I.

FLORA, or *the* Pleaſure-Garden.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. ROSEBAY WILLOW HERB.

July.

Pl. 42. Fig. 1.

THE Garden does not afford a Plant more ſpecious and elegant than this, although it be a Native of our own Country. It is not ſo common wild as to put the Vulgar in mind of calling it a Weed in Gardens; and thoſe who have Judgment, deſpiſe the little Prejudices which repreſent every Thing as mean that comes eaſily.

The Culture of a native *Engliſh* Plant can give the Gardener but little Trouble; and he will eaſily be able to raiſe it to a yet more conſummate Beauty.

The Writers on Plants all name, and celebrate it. They call it *Roſebay Willow Herb*, from its Reſemblance to the *Roſebay*, *Oleander*, one of the fineſt Garden Shrubs; and in their various Names, have generally added ſome Epithet of Praiſe. *Lyſimachia ſpecioſa*, is a very common Name for it; and beſide the peculiar Title *Chamanerion*, which ſeveral have given it who yet retain'd it among the *Lyſimachias*'s; others have called it *Onagra*.

LINNÆUS, who reſtored Order and Method in the Science, ſeparating the many unlike Plants, which his Predeceſſors had joined under the Name *Lyſimachia*, into different Genera; and indeed different Claſſes, for ſo Nature diſtributed them, although ill-judging Art in earlier Times joined them together, ranges this and the other podded Species ſeparately under the Name *Epilobium:* he adds as the Diſtinction of this, *foliis ſparſis lineari-lanceolatis:* Epilobium with ſcattered, narrow, but ſomewhat lanceolated Leaves.

July.

The Diſtinction this Author eſtabliſh'd among theſe Plants has been found very happy: thoſe who in earlier Time ſaw the Differences, did not perceive rightly wherein they conſiſted; and hence, while their ſpecifick Names were unartful, and indiſtinct; they often enumerated Varieties as Species, while they in other Articles confounded really diſtinct Species together.

C. BAUHINE has mentioned a broad leaved *Roſebay Willow Herb*, and a Dwarf Alpine Kind; but theſe are only accidental Variations: the Plant is the ſame in theſe, and in the more uſual State; and beſide the obvious Difference from all other Kinds in the Elegance of the Flowers, and Form of the Leaves, it is diſtinctly characteriſed by their Diſpoſition.

In ſome of the *Willow Herbs* the Leaves ſtand oppoſite, or in Pairs; in others they are placed in a regular alternate Order; in this Species they are wildly ſcattered upon the Stalk; and afford not only a Mark of Diſtinction, but a very ſingular Beauty.

The whole Plant is indeed in the higheſt Degree pleaſing, even to an incurious Eye, in Form, Growth, and Colouring.

The Root is white, long, and thick, and runs a great Way under the Surface.

The Stalk is firm, nobly erect, well coloured, and eight Foot high. It is round, lightly ridged; of a pale green, ſtain'd with crimſon in various Proportions, and full of a white Pith.

It runs up ſtrait as a Spear, and ſingle from the Root; ſeldom unleſs when it has been hurt by Accidents, ſending out any Side Branches. From the Bottom to the Place where the Flowers begin to riſe, it is thick ſet with Leaves. Theſe ſtand in the wild Way already deſcribed; and they are long, narrow, and of a firm Subſtance.

Their Colour on the upper Side is a dark, but not unpleaſing green; and on the under Part a ſilvery grey. This diſcloſes itſelf to the Eye in a Thouſand Forms as the Leaves riſe in their irregular Manner, and are moved by the Wind: the middle Rib alſo on the upper Side is conſpicuous, and of a paler Colour than the reſt of the Leaf. They are ſharp pointed, and undivided at the Edges; or if accidentally there appear a few Indentings in the Leaves of a luxuriant Plant, theſe are altogether ſlight and caſual.

The grey Colour of the under Part of the Leaf varies alſo greatly in degree according to the Soil, and other Accidents; but it is one of thoſe Articles the Gardener ſhould uſe all his Art to preſerve in high Perfection, for it is no common Beauty.

The Flowers crown the Top of the Stalk in a Spike of a Yard long: they are diſpoſed in the ſame wild and irregular Manner with the Leaves; and they blow in a long Succeſſion: but where the Plant thrives well, there are always ſuch a Number of them open together, as make a very glorious Appearance. From the full blown ones at the Bottom the Eye is naturally carried up to the Buds; which, as more or leſs opened by a gradual Diſcloſure, run up to the Top as a Pyramid, terminating in a Point: this is the natural State of the Plant in its full Glory.

As the firſt blown Flowers die off, the Seed-veſſels appear in their Places, and more Flowers open above them. The Appearance then is of a Spike, with Seed-veſſels at the Bottom, Flowers in the Middle, and Buds at the Top; and in either Caſe it is very elegant.

The whole Stalk that is thus covered with Flowers is of a delicate red.

The Flowers themſelves are of a fine crimſon, and have white Filaments with Fleſh-coloured Buttons.

The Colour of the Flower varies according to the Accidents of Growth and Vigour in the Plant, in the ſeveral Degrees of red, from Roſe-colour to the deepeſt Crimſon; but it is in all theſe Degrees beautiful.

The Cup is compoſed of four oblong pointed Leaves, and is colour'd, and of ſhort Duration.

The Flower is compoſed of four expanded Petals; broad, obtuſe, and nip'd at the End.

In the Midſt ſtand eight Filaments; ſmall toward the Top, and crown'd with oval, compreſſed, obtuſe Buttons: they are alternately longer and ſhorter.

In the Midſt of theſe appears a ſingle Style; the Top divided into four Parts, which turn back. This riſes from the Rudiment of the Seed-veſſel, which is placed below the Receptacle of the Flower; and is very long, ſlender, and of a greyiſh red. It ſupports the Flower in manner of a long Footſtalk, and makes no inelegant Part of the Plant.

When the Flower is fallen, this becomes a long Pod, formed of four Valves; and contains in four Cells numerous ſmall Seeds, wing'd with a long, light, cottony Matter.

The Student counting the eight Filaments in the Flower, will know the Plant belongs to the eighth Claſs in the LINNÆAN Syſtem; the *Octandria*; and its ſingle Style, places it under the firſt Section, the *Monogynia*.

The different Length of the Filaments he is not to regard: there are Inſtances in which the Characters of Claſſes depend upon that Particular, but this is limited to the *Didynamia* and *Tetradynamia*; and the Diſproportion in thoſe Caſes is more obvious and ſingular. Many Plants in different Claſſes have the Filaments alternately longer and ſhorter: it is an Accident, as the Convergence, Divergence, or Declination of the Threads in other Caſes; and is very uſeful in characteriſing the Genera, but has no Right to regard in reſpect of claſſical Diſtinctions.

Culture of this ROSEBAY WILLOW HERB.

The Culture of a Plant wild in our Fields, the Gardener will ſuppoſe below all Direction: he will take up a Root, plant it in the Ground at random; and when it has encreaſed too much, he will part it. This is all: and he thinks more Care ſuperfluous.

We ſhall repeat what we have ſaid before on a like Occaſion, that wild Plants ſhould not only be preſerved, but improved, when admitted into Gardens; and we ſhall lay down the Method at large for the Culture of this, which may be transferred to a Number of others.

Inſtead of parting the Roots let him raiſe his Plants from Seed; and let him not collect this from the ill-managed Growths in a Garden, but from thoſe Nature feeds better in the Fields; and even theſe let him enrich by Garden Management.

In our Northern Counties this elegant Plant is frequent on the Sides of damp Hills, by the Edges of Springs, and principally among thoſe looſe Thickets raiſed by the Opulus and Alder, on the Banks of Rivers; where there is Moiſture, and a deep black Soil.

There is a great Quantity of it in a Field which lies in the Way from *Hampſtead Heath* to *Cane Wood*. The Soil nor Situation perfectly ſuit it there, but it is better than in Gardens. Thither we refer the Gardener for his Seed, and let him procure it in this Manner.

Let him ſelect two or three of the ſtrongeſt

Plants, and clear away all the reſt for two Yards about them.

Let him cut off the Spike of each when it begins to flower, leaving only about half a Dozen of the lower Flowers, which are then open.

Let him watch the Progreſs of Nature from time to time; and as new Shoots for flowering appear, deſtroy them.

Let theſe Flowers only ſtand for Seeds; and the whole Effort of Nature being directed thither, they will be ripen'd in the moſt perfect Manner.

Let him watch the Time when their Pods grow dry; for they ſoon after burſt, and the Winds would carry away his Expectations.

Let him cut them off when thus fully ripened, and lay them in an airy Room where there comes neither Sun nor Wind, to dry.

This done, let him prepare a Compoſt thus:

Mix equal Parts of black Meadow Earth, and Pond Mud; to a Load of this add three Buſhels of Cow Dung, and one Buſhel of Marle; or if that cannot be had, three Pecks of Fullers Earth. This will make a very rich, and at the ſame Time a cool Compoſt, fat and mellow; it is what the Plant loves, and it will improve in lying.

The firſt Quantity for the Seeds will be well mellowed by that Time it is wanted; but the Remainder will lie through the Winter, and the Froſts will perfect it for the Reception of the Plants.

When the Seeds are well dried, and the Heap of this Compoſt has been two or three Times turned, fix upon a cool and ſhaded Part of the Nurſery for the Bed. Dig out the Mould a full Spade deep, and fill the Place with ſome of the Compoſt.

In the Middle of *September* chuſe a perfectly calm Evening of a cloudy Day, and mix with the Seeds a double Handful of dry clean Sand. The common white Writing Sand is beſt. Rub this and the Seeds together to ſeparate them; and then the Surface of the Bed being perfectly levelled, ſcatter them on with the Sand; as even as poſſible, and not too thick.

When they are thus ſpread upon the Bed, ſweep them about with the Surface of the Mould with a ſtrong Hair Bruſh: by this Means all the Lumps will be broken. This is very eſſential, for according to the Degree of covering, the Seeds ſhoot ſtronger or weaker; and the Plants ſhould riſe diſtinct, that the weak may be taken up without hurting the others.

Sift over them a Quarter of an Inch of this Compoſt, and laying a Piece of a Whitethorn Buſh upon the Bed, leave all to Nature.

If in the Remainder of the Autumn the Ground ſhould grow too dry, it muſt have a little Water: if any Weeds appear, they muſt be pulled up.

In Spring the young Plants will appear, let them be weeded and watered; and when they have ſome Strength, let all but ten or a Dozen of the fineſt be pulled up.

Prepare a Bed for theſe in the Garden; chuſe a Place that has ſome ſhade; dig out the Mould a Spade and half deep, lay in ſome Clay that the Moiſture may be detained, and fill up with the Compoſt.

When the Plants left in the Seed Bed are five Inches high, open as many Holes as there are of them in this Bed at a Yard Diſtance, and in a cloudy Evening take them up with large Balls of Earth, and plant them: give a good Watering, and ſhade them till they have taken root.

After this they will require only the common Care beſtowed on the other Plants: but every Autumn they muſt be taken up, freſh Compoſt muſt be put into the Bed, and the Roots muſt be reduced to a due Size, for they ſpread very faſt. This done, they muſt be planted again at the ſame Diſtance, and watered when they grow toward flowering.

This Management will bring them to the higheſt Perfection, nor is it limited to this Plant; but with due Allowances for their Nature, ſuits all the fibrous rooted Kinds.

2. POETIC DAFFODIL.

Pl. 42. Fig. 2. The Garden does not afford, in its Kind, a prettier Plant than this; nor do we know one that has been ſo early, or ſo honourably mention'd by all Kinds of Writers. This is the Narciſſus celebrated in *Greek* and *Roman* Verſe: the ναρκισσος υπνοος, the fragrant Daffodil of THEOCRITUS, the firſt Flower he has placed in his *Europas Garland*; this the ναρκισσος of THEOPHRASTUS, which he deſcribes with the naked Stalk, and Aſphodel Leaf, but broader: this the roſy-boſom'd Daffodil, which, they ſay, reflected its bright Image in the clear Streams of their favourite Rivers.

'Tis from theſe Fathers of the Science we are to ſeek the true Knowledge of their Time in Plants; and while we honour the Critick who ſets right the *Aſphodeloides*, we want another SCALIGER to reconcile to Reaſon the Colouring of the Petals.

The Name thus given to the firſt Narciſſus, the white flower'd Kind, with the purple Cup, the leſs accurate Followers of theſe Writers transferred without Addition, to the whole Narciſſus Kind.

OVID has been ſuppoſed to contradict the early *Greek*, when in his elegant and mournful Story he ſays,

> *croceum pro corpore florem*
> *inveniunt foliis medium cingentibus albis.*

But DIOSCORIDES who wrote between their Times, has reconciled this ſeeming Contradiction:

tion; he deſcribes the Daffodil of THEOPHRASTUS in very expreſs Terms; and adds, regarding the Colour of the Flower, that the outer Part or Petals are white, and the inner Part or Nectarium which they called, and which the Gardener ſtill calls, its Cup, was either purple or yellow.

Thus we ſee the whole explained. The firſt *Greeks* gave the Name *Narciſſus* to the purple cup'd Daffodil: in after Time the Writers of the ſame Nation extended the Term to the yellow cup'd Kind; and OVID made an ill Choice between them. He has not fixed upon the original or purple cup'd *Narciſſus*, here deſcribed, but on the yellow centred one, which we have mentioned in a former Number.

PLINY, whom it would ſeem Omiſſion not to quote on this Occaſion, collected variouſly; but what he has ſaid ſtrengthens (if Copyiſts can give Strength to the Determinations founded upon the Words of their Originals) what we have eſtabliſhed of the true and early known *Narciſſus*; he mentions indeed one with an herbaceous Cup; but this is a ſecond and inferior Kind: the true original *Narciſſus*, he ſays, had a white Flower with a purple Cup; and in his inartificial Way he calls it a purple Lilly.

This elegant white Daffodil with the ſmall purple Cup, is therefore the Original firſt known, and ſo much celebrated *Narciſſus* of the antient *Greek* Philoſophers and Poets; the Theme of ſo much Praiſe, and Source of ſo many Fables; whoſe Beauty they deduced in their wild Way, from the Metamorphoſis of a celebrated Youth of the ſame Name; which their Bucoliſt praiſes in his elegant Simplicity for Elegance and Fragrance; and which the Tragic SOPHOCLES feeds from the Dew of Heaven, the

> Ο καλλιϐροτυς ναρκισσος – – –
> Θαλλει δ᾽ ουρανιοις ὑπ᾽ αχνας.

They are ſlight Criticks who would cavil about the Time of our Plants flowering and theirs; which they ſay opens its elegant Bloom after the riſing of *Arcturus*; that is, in *September*.

The Daffodil we deſcribe here is later than moſt others, and is even called thence, by our PARKINSON and others, *Serotina*. In *Greece* the Seaſon of the Daffodils we know is later.

TOURNEFORT, of all Men, is the beſt Authority on this Head; and he, unknowing or unthinking of this Cavil, tells us he gathered on the Banks of the *Granicus*, and about *Epheſus*, Daffodils in *December*.

This purple-boſom'd Kind, ſo early celebrated, the later Authors name from the Colouring of this inner Part. DODONÆUS calls it *Narciſſus medio purpureus*; C. BAUHINE, *Narciſſus albus circulo purpureo*; and others in the ſame Manner.

LINNÆUS, who rejects the Article of Colour from ſpecific Names, calls it, *Narciſſus ſpatha uniflora, nectarii limbo rotato, breviſſimo:* Single-flowered *Narciſſus*, with the Edge of the Nectarium rotated and ſhort.

The Root is a roundiſh Bulb, hung at the Baſe with many long and conſiderable Fibres.

The Leaves are long, moderately broad, and of a pale but not unpleaſing green.

The Stalk is naked, hollow, flatted a little, and edged; and at its Top ſupports a ſingle and very elegant Flower. This naturally droops a little, and is formed, as the other Daffodils, of ſix Petals, with a Nectarium of a rounded Form, ſhort, and waved at the Edge.

The Petals are Snow-white; but in the Centre of the Flower there is an elegant Crown of red, with a fringed Edge; beneath this is a white, and beneath that again a yellow Circle. This is a very elegant Diſpoſition of the Colouring, and added to this, the Fragrance of the Flower could not fail to recommend it to all the Attention it ſhared of old, and will we hope ſtill have from the judicious Gardener.

The Conſtruction of the Flower is the ſame as in other Daffodils which we have deſcribed before; and its ſix Filaments and ſingle Style refer it plainly to the *Hexandria*, the ſixth Claſs of LINNÆUS, and to its firſt Section the *Monogynia*.

Culture of this DAFFODIL.

We need not repeat for the Culture of this Species what we have at large delivered of the other Kinds. Its Management muſt be the ſame, only that there ſhould be an Addition of Marle to the Compoſt: if that cannot be had, a Mixture of Pond-Mud and Cow-Dung muſt be uſed in its Place; and when this has been expoſed to the Winter's Froſts, it muſt be added to the reſt.

The Seeds muſt be ſaved from thoſe Plants which have the red Circle fineſt in the Flower, and a ſecond Time from the fineſt of thoſe which have been produced from ſuch original Sowing. Thus the Flower will attain its greateſt Perfection; and if ſome of the Roots be annually planted later than the others, and in a Place not much expoſed to the Sun, there will be a Continuation of the Flowers a long time in full Beauty.

Every Year the Roots muſt be allowed a freſh Bed of Compoſt, for they loſe their Beauty in the ſame Soil, if ever ſo well worked for them; but in this Way of Management, the White will be like Snow, and the Central Purple far ſpread into the Flower.

1 Rosebay Willowherb

2 Poetick Daffodill

3 The Twostag'd Martagon

4 Inverted Columbine

5 Oriential Gladiole

6 Strip'd bulbous Iris

3. The TWO-STAGED MARTAGON.

Pl 42. Fig. 3. We have deſcribed in a preceding Number, the common *Martagon* a very elegant and fragrant Flower: this, which ſurpaſſes it far in Beauty, is no diſtinct Species, but one of thoſe Varieties which Culture gives the attentive and ingenious Gardener.

The common *Martagon* we have conſidered there at large; and have obſerved that inſtead of the Names imperial and muſky *Martagon*, *Martagon imperiale*, and *Lilium pyramidale moſchatum.* LINNÆUS calls it *Lilium foliis verticillatis, floribus reflexis, corollis revolutis:* Verticillate-leaved Lilly, with drooping Flowers, whoſe Petals turn up.

Thoſe who chuſe to diſtinguiſh this Variety by a peculiar Name, may call it the *Imperial Martagon, with a divided Spike.*

The Root is larger than in the other Kind; proportioned to the Plant. It is compoſed of numerous Scales, and has ſeveral thick Fibres.

The Stalk is round, very firm, perfectly upright, and more than a Yard high. Its Colour is naturally a duſky green, and it is ſtained in various Degrees with purple.

The Leaves are broad, ſhort, and of a deep green, with high Veins on the under Part. There are uſually four or five Circles of them round the Stalk, at different Diſtances; and toward the Top two or three looſe, irregular, and ſmaller Leaves narrower, and of another Form.

The Flowers are extremely numerous and elegant, and they are diſpoſed in a pyramidal but interrupted Spike. At ſome conſiderable Diſtance above the uppermoſt Leaves, there riſe a Cluſter of them on long Footſtalks: theſe ſurround the Stalk, and form a kind of circular Crown. Above theſe it is for ſome Space naked, and then begins another Series of Flowers, forming a compleat Spike to the Top.

Sometimes the Stages will be three or more; but in thoſe Caſes the Diſtinction is leſs obvious; and this is on all Accounts the fineſt Condition. The Flowers in Shape reſemble perfectly thoſe of the common *Martagon*. They have no Cup; each is formed of ſix thick Petals, which turn back and curl up, and in the Centre riſe ſix Filaments, with a ſingle Style.

The Colouring little differs; but what there is of Variation in this Reſpect is to the Advantage of the preſent Kind. The Ground-Colour is a pale fleſhy Crimſon, and the Spots are frequent, and of a perfect Blood-colour. The Buttons on the ſix Threads are alſo of a fine bright Crimſon, and add not a little to the Beauty of the Flower. The Scent is muſky ſweet, but very ſtrong.

Culture of this MARTAGON.

Culture without the Intention of the Gardener firſt produced this elegant Variety, and nothing is more precarious than its Propagation.

The Plant itſelf, which is a Native of *Europe*, will flouriſh with little Care or Trouble in our Borders; and this will be produced among the reſt, when raiſed from Seed choſen as we have directed, and managed with the Care we adviſe to be beſtowed on the imperial Kind.

When ſuch a Flower is produced, more than ordinary Care muſt be taken of it, and of its Off-ſets. No Change muſt be made in the Soil, but it muſt be allowed a ſufficient Quantity.

Nothing ſhould ſtand within three Foot of ſuch a Plant; the Stalk ſhould be firmly ſecured by a Stake, and frequent Tyeing; and the Space of Ground devoted to its Nouriſhment, muſt be often ſtirred, and oftener watered.

In this Manner the Plant is to be brought to Flower, and it will be proper to ſave Seed from it. To this Purpoſe, the upper Spike of Flowers ſhould be cut off before they blow, and only the Crown or lower Circle left to perfect themſelves and their Seed.

This will be ſtrong and vigorous in the higheſt Degree, and will be the more likely to re-produce the two-ſtaged Kind; however that be, no Seed is likely to produce ſo fine Flowers of the uſual Sort.

In the Year 1755 I had one of theſe two-ſtaged *Martagons* with ſnow-white Flowers, ſpotted with Purple. A very elegant as well as ſingular Plant.

Theſe are the Varieties that riſe from ſowing bulbous Flowers; they are the great Glory and great Reward of the Floriſt; and one or other of them is frequently appearing when the true Methods are uſed.

Thoſe who call themſelves Floriſts in *England*, devote their Cares and Attention to two or three Kinds: they ſhould make the Labour univerſal, for the Succeſs will always be anſwerable to it; and the more Flowers they ſow, the more Chance they will have for theſe new Appearances.

4. INVERTED COLUMBINE.

Pl. 42. Fig. 4. We had Occaſion to name in a late Number, a Columbine whoſe Flowers diſcard the common Character of the Genus, the Nectaria or Horns. In this which we deſcribe in the preſent Chapter, thoſe ſingular Parts are ſufficiently conſpicuous, but they are diſpoſed in a Manner contrary to their natural Arrangement; they bend up to the Stalk in that, in this they point from it.

The firſt Notice of the Flower ſpeaks it of an unnatural Form, and the Gardeners have not amiſs named it the *Inverted Columbine*.

'Tis not a diſtinct Species from the common

July.

Kind, but one of thoſe innumerable Varieties which riſe from well ripened and well managed Seeds.

The old Writers have deſcribed it under the Name of *Aquilegia inverſis corniculis*; and *Aquilegia multiplici flore inverſo:* the inverted-leaved *Columbine*, and the double inverted *Columbine.*

The Origin is from the common ſimple *Columbine*, wild in ſome Parts of this Kingdom, and throughout the reſt of *Europe*, and little regarded now in Gardens. No Plant gives the Floriſt more Field for Variation; for the Forms and Colours of the Flowers are almoſt endleſs.

LINNÆUS refers all theſe, the great double and the great ſingle, the degenerate, the roſy, the ſtarry, and this inverted Kind, to the common *Columbine*, which he diſtinguiſhes by the Addition of *corniculis incurvis*; the *Columbine* with the Horns bent inwards: and in the Flower in that natural State only, as ſeen in the wild or common ſingle *Columbine*, the Characters are to be traced.

This inverted Kind is of the ſame Stature with the common, and, unleſs for the Difference in the Flowers, of the ſame Form.

The Root is compoſed of numerous Fibres, hung to a long and firm Head.

The Leaves are ſupported on long ſlender but firm Footſtalks, of a rediſh Colour, and are compoſed of many Diviſions, placed in Three's: theſe ſeparate Parts are obtuſe, and of a blueiſh green.

The Stalk is two Foot high, purpliſh, tolerably firm, but ſlender.

Several Leaves ſtand irregularly on it, reſembling thoſe from the Root; and at the Top it divides into many Branches.

The Flowers are large, double, and very beautiful: their Colour varies extremely; they are blue, red or white, and often pyebald, or mixed of two of thoſe Colours in a very pleaſing Manner.

They are thick ſet with curled and rounded Parts, and their Nectaria or Horns ſtand forward; the Flower appears fixed to its Footſtalk by the wrong End, and this Singularity adds to the Elegance.

We have had Occaſion before to refer the Student to the ſimple *Columbine* for the Claſſical Characters: that with five Petals, and five horned Nectaria, has numerous Filaments fixed to the Receptacle, and five Rudiments with their Styles: the Plant therefore belongs to the *Polyandria Pentagynia* of LINNÆUS.

July.

Culture of this COLUMBINE.

As the *Columbine* is a Native of our Country, there will be no Danger of its ſuffering by Froſts or Expoſure: the Seeds will raiſe it if ſown ever ſo careleſly; but, with due Management, the Plants will be vaſtly improved and varied.

All that we have named as belonging to the ſame original Stock, will riſe one time or other from the ſame Seeds; but let theſe be ſaved, and ſown with Judgment.

Several of the double *Columbines* ripen Seeds as perfectly as the ſingle; and 'tis from ſome of theſe it ſhould be ſaved.

Let the Gardener mark for this Purpoſe, two or three Plants which have the largeſt and faireſt Flowers: and from thoſe ſave the Seed, as we have directed on former Occaſions.

When this is thoroughly hardened, let it be ſown in the Nurſery; and as the Plants come up, let them be weeded, watered, thined, and every way aſſiſted in their Growth: and when they have once flowered, let them be brought into the Garden.

The Variety is endleſs that will thus riſe from one Parcel of Seed collected from one Plant; there will be ſingle and double, roſy, ſtarry, and inverted, perfect and degenerate Flowers: in Colour there will be all the Shades of blue, white, and red; and all the Colours that can be derived from various Mixtures of theſe; among the reſt there will be ſome variegated, ſtreaked, clouded and ſpotted: theſe are the fineſt, and from theſe Seeds ſhould be afterwards ſaved.

Theſe numerous Varieties ought to recommend the Plant to the Gardener; nor is there a little Regard due to its Form and Time of Flowering.

This Seaſon is a kind of middle Space between the Spring and Autumn Flowers, and there are fewer particular to it than to either of the others. A buſhy Plant which produces Abundance of Bloom at ſuch a Time, is therefore valuable.

We do not enough regard it; and 'tis more ſtrange yet, that the Plant does not appear to have been known to the *Greeks* and *Romans:* it has no Name in the Language of the firſt, nor is that which we call the *Latin* one, of real *Latin* Origin.

5. ORIENTAL GLADIOLE.

Pl. 42. Fig. 5.

This is a Plant well recommended by its large and ſpecious Flowers, and worthy a Place in every Garden: nor is the Culture difficult.

The Bigneſs of the Flowers, their Diſpoſition, and their Colour, are the great Diſtinction of this from the common Kind which we have named before. To the Gardener theſe are very eſſential Diſtinctions: but our Botanical Student knows that in the Eye of Science there are none. He will conſider the Plant therefore as deduced from the common *Gladiole*; and while he admires its Beauty, know its Origin.

The

July.

The old Authors have deſcribed it under the Names of *Gladiolus Byzantinus*, and *Gladiolus major Byzantinus*.

LINNÆUS refering it to the original Species calls it, *Gladiolus foliis enſiformibus floribus diſtantibus:* Sword-leaved Gladiole, with diſtant Flowers.

The Root is ſmall and tender, compoſed of two Bulbs placed one above the other, and wrap'd up in ſeveral Coats.

The Leaves are long, narrow, firm, ſharp-pointed, and edged; their Colour is a fine freſh green, and they riſe with great Regularity.

The Stalk is ſlender, weak, and of a paler green: it is two Foot and a half high, and always bends more or leſs toward the Top. It riſes among a Cluſter of the Leaves, and has a few of the ſame Kind, but ſhorter upon it.

The Flowers form a kind of Spike half the Length of the Stalk; they are very large, and of a deep but beautiful purple. The better the Culture of the Plant, the larger and the deeper colour'd will be the Flowers. I have ſeen them almoſt black, but not the leſs beautiful.

July.

Their Structure is the ſame as in the common *Gladiole:* ſix Petals unite at their Baſes into a ſhort crooked Tube, and there riſe within, three Filaments and a ſingle Style; the Plant is refer'd by theſe Characters to the *Triandria Monogynia* of LINNÆUS.

Culture of this GLADIOLE.

We have given the Management of another Kind of this Plant, and there requires no diſtinct Care for this.

In ſaving the Seeds regard muſt be had to the Size of the Flowers, and their Colour. The largeſt and the darkeſt are the beſt. They muſt be raiſed as the others; but when brought into the Garden ſome Regard ſhould be had to their native Climate; and a warmer Spot choſen for them. With this Regulation they will flower as regularly and as beautifully as the others; and they have a farther Value, that they come in later.

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6. STRIPED BULBOUS IRIS.

Pl. 42. Fig. 6.

This is an *Iris* that very well deſerves its Place in the beſt Gardens: it is hardy enough to bear all Seaſons, and inferior to none in Beauty.

The old Authors have all deſcribed the Plant: they call it, *Iris bulboſa verſicolor*, and *Iris bulboſa flore cæruleo & albo verſicolor:* the changeable, and blue and white changeable bulbous Iris.

LINNÆUS, who does not admit theſe Variations in Colouring as any Marks to diſtinguiſh Species, calls it, *Iris foliis margine conniventibus, corollis imberbibus:* beardleſs Iris, with the Leaves cloſing at their Edges.

The Root is bulbous, ſmall, white, and encloſed in ſeveral Membranes.

The Leaves riſe five or ſix together, and they are long, narrow, and of a freſh green; they are hollowed, and their Edges often come together, and the Point is ſharp.

The Stalk is round, thick, jointed, and ſurrounded by ſeveral ſtrait Leaves, of a paler green than thoſe from the Root: it is a Foot and half high, and ſupports, when the Plant is in its higheſt Perfection, only one Flower. Sometimes there will be two or three; but in that Caſe they are always inferior to ſuch as are ſupported ſingly on their Stalks, and of leſs Duration.

The Gardener will therefore do wiſely if he pulls off the ſecond Flowers as ſoon as they appear in the Bud, that the whole Effort of Nature may go where it was intended, to the Support of the one principal Flower.

This is of the ſame Structure with the reſt of the *Iris*'s, but very diſtinguiſh'd in the Colouring.

It has no Cup, except ſome light irregular Films, which form a kind of Scabbard, be dignified with that Name.

The Petals are ſix, three placed upright, and three drooping; and there is the Appearance of another Set of three, but theſe are only the broad Appendages of the Style. All the ſix Petals unite at their Baſe; and from the Centre ſpring three Filaments; theſe lie upon the drooping Petals, and have thin, oblong, ſtrait, depreſſed Buttons.

The Rudiment of the Fruit is placed below the Receptacle: the Style that riſes from this is very ſhort, and its Head remarkably large, and form'd of theſe three Diviſions, which we have obſerved reſemble Petals.

The ground Colour is a pure pearly white. Each of the drooping Petals has a ſingular oblong Mark, of a Lemon yellow in its Middle; and theſe, as well as the upright ones, are ſtreaked with a celeſtial blue in the moſt regular and elegant Manner: they have the Appearance of ſome of the fineſt and beſt wrought blue and white Summer Silks.

The Streaks of blue are in ſome Flowers broader, and in others narrower: they are alſo of a deeper Colour in ſome Flowers, and paler in others, but in all very elegant.

The yellow is ſubject alſo to ſome Variation, but it is beſt when of pale and delicate Hue we have deſcribed here; when dark it gives a Coarſeneſs to the Flower.

Culture of this IRIS.

We have had Occaſion in a preceding Number, to treat of the Culture of the bulbous *Iris*'s, and we have given it at large.

Nothing particular is required in reſpect of this Kind, but a careful Choice of the Plants reſerved for Seed, and frequent Removing of the Seedlings: for upon this depends the Variation of Colours in Flowers much more than the Generality of Gardeners imagine.

In this Manner of managing the Plant, I have ſeen from the ſame Seed more Varieties than all that Clusius has enumerated, or our late Cultivators of Flowers underſtood.

A good Quantity of the Seed ſhould be ſowed together; but all from ſtrong Plants, and ſuch as have ripened only one Flower.

This ſhould be ſown juſt when it is thoroughly hardened; and when the Plants come to Flower, their ſeveral moſt diſtinct Variations in Colouring ſhould be mark'd; that when the Roots are taken up to be tranſplanted into their Places in the Garden, the Flowers may ſet off one another by the Variety.

There is nothing that more pleaſes a judicious Eye in the Article of Gardening, than the Change of Colouring under the ſame Form; and it would not be eaſy to produce an Inſtance in which that Variation is more unbounded.

In ſome of theſe Seedlings the Lips of the three lower Petals will be entirely yellow; that Spot which is natural to their Centre ſpreading throughout, and obliterating at once the white and blue.

In others, the Centre of this Part will be Orange colour'd, the outer Part pale yellow; and purple Veins will run over this, as blue upon the white.

In others, the three lower Petals will be yellow, vein'd with purple; and the three upper white, vein'd with crimſon.

In others, the yellow Spot on the lower Petals will be ſurrounded with a Ring of pearly white; and the three upper ones white, vein'd with purple and yellow.

In others, the three Colours white, yellow and purple, which in theſe are diſpoſed with Regularity, will be thrown in wild Streaks and Blotches throughout, and form an almoſt innumerable Series of Changes.

The Gardener will know that a Plant capable of this redundant Variation, is a fine Subject of his Art. No matter that ſome Patience is required to bring it to flowering: let him recollect always what he has to expect, and he will think lightly of the Trouble.

In order to have a Chance for all the Kinds, let him ſow a good Quantity of the Seed. A larger Bed of Seedlings is as eaſily taken care of as a ſmaller; and 'tis from the Number he is to expect his great Succeſs.

In all theſe Sowings a Multitude of the Plants flower in the common Way, for one that anſwers the Intent of Elegance and Improvement; but if in a Bed of a Hundred, only half a Dozen come to this Perfection, the Labour is very well return'd; for theſe are a laſting Treaſure to the Gardener, and they will encreaſe themſelves abundantly.

When the fine Flowers have been ſeparated, the common Kinds may be planted in the Borders. Theſe ſhould be properly diſpoſed in a particular Bed, and they will improve for the two or three firſt Years. They ſhould be conſtantly taken up when the Leaves decay, and every Year a new Parcel of Compoſt allowed them.

Their Off-ſets ſhould be ſeparated every Time they are taken up; and theſe becauſe ſmall, muſt be planted in a Bed in the Seminary; from whence, when they are fit to flower, they muſt be removed into the Garden.

CHAP. II.

The Care and Management of the Ground.

THE Garden is now in its Glory, and all Care muſt be taken to keep it in perfect Order. Cleanlineſs is the beſt Companion of Beauty: the Eye would be diſguſted that muſt wander over Weeds and Dirt in order to come at Flowers; but where every Thing is in Order, the Tranſition from one to another is very pleaſeing. All Weeds muſt for this Reaſon be taken up at their firſt Appearance, and the Surface of their Borders ſhould often be broken, and raked clean and ſmooth.

On all theſe Occaſions it will be proper to draw up a little Mould about the Bottoms of thoſe Plants which are coming into Flower; this ſtrengthens them, and the breaking of the Ground diſpoſes it to receive and retain the Dews and Waterings in a much better manner than when hard.

The Gravel-walks ſhould be conſtantly rolled, and the Graſs mowed frequently: thus every Thing will have an Air of Culture.

The Fields at this Time naturally begin to look dry, and their Plants flag with Heat, and want of Moiſture. The Contraſt is fine between wild Nature in this State, and the well managed Garden.

The Air of Cleanlineſs and Health is a Charm equal to that of the beſt Flowers; and every Plant in the Borders appears with a double Beauty, from the Compariſon between that and the Field Herbs kept up in the Imagination.

When all is in order with reſpect to the growing Plants, and the Ground in which they ſtand, let him open that in which the Spring Flowers blowed, whoſe Leaves and Stalks are faded: ſeveral of the *Narciſſus's*, *Fritillaries*, and *Hyacinths* are now in this Condition.

It ſhould be an univerſal Rule of Gardening, to take them up when they are in this State of Reſt, between the cloſe of one Seaſon's Growth, and the preparing for another. Some will bear to be kept out of the Ground till Autumn, others muſt be planted again immediately; but the Advantage ariſing from taking them up is equal to both, and ſhould never be omitted.

When ſuch are taken up as are to be planted again immediately; let this Opportunity be taken of giving a freſh Soil, or for well digging up the old.

We have obſerved in the proper Places, what Kinds ſuit each of theſe Services; and thoſe which are to be kept out of the Ground till Autumn muſt be cleaned, ſpread upon a Mat, and turned till they are hardened. The others muſt be cleaned in the ſame Manner; their Off-ſets taken away; and the Ground being made up, they muſt be planted again as at firſt.

This done, let due Care be taken of the Layers made the preceding Weeks from Carnations, Pinks, Sweet-williams, and other flowering Plants.

Let the Gardener examine whether they keep well in their Places, and ſee that the Earth preſerves a due Degree of Moiſture upon them.

If any appear likely to ſtart, let them be ſecured by new Forks; and if the Mould be at all dry'd, let it be frequently and conſtantly watered: whenever the Watering waſhes any Part of it away, let freſh Mould be laid on in the Place; and in the tenderer Kinds, where they are ſeen to ſtrike with Difficulty, let them be ſhaded.

The hardy Plants of all Kinds being thus put into due Order, let the Gardener employ his Care upon the Green-houſe and Stove Kinds.

Many of the new raiſed Green-houſe Plants will by this Time require to be removed into larger Pots; and this muſt be done with great Care.

The Pots, the Mould, and the Water being all ſet ready, let the Bottom of the new Pot be covered two Inches with Mould: then with a thin Knife, ſuch as Painters uſe for taking up their Colours from the Stone, let the Mould be looſened all round the Edges of the Pot, to the Bottom.

It will thus come out in an entire Lump, with the Plant firm in the Midſt.

Let the ragged and decayed Roots, which cover the Surface of the Ball, be cut off with ſharp Sciſſars; then let the whole be ſet in the new Pot, and the freſh Mould filled in round it.

Let the Surface be raiſed an Inch above that of the original Ball; and finiſh the Work by a moderate Watering all over the Plant, and on the Mould.

If there be any decayed Leaves let them be taken off; if the Stem be foul let it be cleaned; and any Filth that may be upon the Leaves or Shoots, waſhed off with a Piece of Flannel dip'd in warm Water. All this, beſide giving an Air of Cleanlineſs, aſſiſts in the Growth of the Plant.

Set the Pot in a ſhady and ſheltered Place; and the next Day thruſt the ſame Knife down in ſeveral Places from the Surface to the Bottom of the Pot. Theſe Knives have no Point nor Edge; they cannot wound the Root; and this Way they break the old Cake of Mould, which is often too compact about the Fibres.

This is all that can be done in thoſe which have had but a moderate ſtanding in the former Pots; but for ſuch as are better eſtabliſhed, it will be very proper to pull away a great Part of the old Cake of Mould before they are planted in the new Pot.

Whatever Roots are bared by this, muſt be clip'd off at the Ends, and the Plant as quick as poſſible planted again; and theſe Parts covered with all Care and Attention.

In each Caſe the new Pots muſt continue in their ſhaded Situation till the Plants are perfectly rooted, and have recovered the Check from the Removal. They muſt be then brought into the Place where the other Green-houſe Plants are ſet out for the Summer; and they muſt be very carefully watered.

If any Check be ſeen in their Growth as they ſtand there, they muſt be again removed into the Shade till fully eſtabliſhed.

This Week will be a very proper Time for taking off Cuttings from the Euphorbiums, Meſembryanthemums, and other ſucculent Plants, for propagating them.

Let the Cuttings be laid upon a Shelf in an airy Room, and every Day turned for twelve Days. This will prevent their rotting when planted, to which the wounded Part is otherwiſe very ſubject.

Theſe Cuttings maintain a kind of Growth while they lie upon the Shelf. In their natural State they are ſupported very much by the Air; for we ſee a Handful of Mould will be ſufficient in our Pots for ſome of the largeſt Kinds; and in their native Climates, they live in ſcorched Sand.

In this Time of their lying on the Shelf, the Motion of their Juices is continued, and the Principle of Life kept up, otherwiſe they would not grow when afterwards planted; and a kind of Skin is thrown by Nature over the Wound during this Time of lying out of the Ground, which enables it to bear the Moiſture afterwards, without Mouldineſs.

This kind of Growth from every Piece, is not peculiar to the ſucculent Kinds: the World would be ſurprized to know how far Experience confirms the ſuppoſed Reveries of Agricola. Of this we ſhall ſpeak in its Place.

Let the Degree of Heat in the Stove be very well regulated by the Thermometer; and let the Bark-beds be refreſh'd where that is found neceſſary. Their Heat depends on Fermentation, which naturally laſts a great while; and when it is almoſt over, will be renewed by adding ſome freſh Bark, which works as Leaven to the Maſs, and ſets it all into a ferment again.

Sometimes the barely ſtirring the Bark up will do, ſometimes a larger Addition of new Bark is required, and in other Caſes a ſmaller will ſerve.

In all this the Gardener muſt judge for himſelf by the Heat of the Bed: but in whatever Manner it is done, the Pots which are taken out for it muſt be placed in again with all Expedition.

With reſpect to the Generality of Plants in the Stove, they will at this Time require free Air as much as can be conveniently admitted; and thoſe which are moſt expoſed, will be ſcorched unleſs the Glaſſes be ſhaded in the Middle of hot Days.

SECT. II.

The Management of the SEMINARY, *for this Week.*

THE Heat of the Sun is now the great Annoyance of the Nurſery: the Beds of Seedlings will be ſcorched up by it unleſs ſhielded by Reed-hedges, or ſome other Shelter from its full Beams at Noon; and the Earth will be ſo dried up, as to require frequent Waterings in theſe Beds, and wherever elſe there are new planted Trees, Shrubs, or Plants, which are not ſufficiently eſtabliſhed. This depends upon the plaineſt Reaſon.

All new planted Trees and Shrubs depend upon the ſuperficial Part of the Mould for Nouriſhment, for their Roots were cut in taking up and putting down again: therefore unleſs that ſuperficial Part of the Ground be kept in a due Temperature of Moiſtneſs by Waterings; when Nature withholds her Showers, the new ſhot Fibres from theſe Roots will be burnt up; or if they eſcape this, there is no Moiſture for them: but in the more eſtabliſhed Plantations, the extream Roots penetrate very deep, as well as very wide, and will find a Supply when all upon or near the Surface, appears parched with Drought.

Let the Buſineſs of Inoculating be continued; and the ſeveral Kinds of Peaches, Nectarines, and Cherries, taken in Succeſſion according to their Seaſons.

A great deal of this Work miſcarries from the careleſs, or ignorant Manner in which it is done.

If the common Proceſs be regarded, the Succeſs depends entirely upon the good Condition of the Bud.

The Perfection of this Operation is to inſert it in the Stock as ſoon as taken from the Tree, and prepared for the Place. All the Time that it lies expoſed it grows damaged: the hotter the Air the ſooner it is hurt, and eſpecially when the Sun ſhines. 'Tis for that Reaſon a cloudy Evening is the beſt of all Times for the Purpoſe; and this is the Occaſion of our practical Caution, in a former Number, to take no more Cuttings off each Time than will be wanted for the ſame Evening's Work.

They are much miſtaken who ſuppoſe ſoaking them in Water will anſwer the Purpoſe. The true Method is to take the Cutting in ſuch manner that it may be of the ſame Degree of Freſhneſs with the Stock; no drier, nor any moiſter, and in this Caſe not one in a Thouſand will fail.

The Growth of Weeds requires continued and repeated Care in this Part of the Ground, and particularly among Seedlings. They are eaſily overpowered, eſpecially in a dry Seaſon; for tho' the Weeds grow ſlower at ſuch Times, they alſo are leſs able to bear their Miſchief.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THE Care of the Nurſery leads to that of the Fruit Garden, and the Management of one teaches what is expected for the firſt Stages in the other. As much Care is required of thoſe Fruit Trees which have been newly planted in the Garden or Orchard, as of thoſe in the Seminary after their Tranſplantations.

Let the Gardener now look with great Care to their Faſtenings, whether by nailing to Walls, or by tying up to Poles. If they rock at the Root they will be of very ſhort Duration, for there is as much Miſchief in letting in Drought as Froſt. If they be at all looſe, let them be tied or nailed up more ſecurely; let the Mould be broke all about them, and carefully cloſed at the Bottom of the Stem; and after this let them have frequent Waterings. If theſe do not reſtore them to perfect Vigour, let a little Dung be added to the Mould, and waſhed in by repeated and large Waterings: this I have known to ſucceed at the preſent Time of the Year beyond Expectation; but there is a great deal to be conſidered in regard to the proper Method of uſing it.

In the firſt Place, the Kind is to be ſuited to the Nature and Condition of the Tree; and then ſuch a Method muſt be found of applying it, as will give its Virtue to the Roots. Every one muſt be ſenſible, that if Dung be only ſpread upon the Surface of the Ground at ſuch a Time of the Year as this, the Air, not the Soil, would receive its volatile and active Parts: the Sun would raiſe them like the Fire of a Chymiſt, and only a dry chaffy Subſtance would be left upon the Ground.

Among the various Kinds of Dung we find very different Qualities; and by theſe they are ſuited to various Services: the Gardener who does not know how to ſelect and apply them, is deficient in a very eſſential Article of his Buſineſs.

Horſe-dung, which is the moſt univerſal Manure, is hot and rank: it requires to lie a long Time before it is fit for Uſe about Fruit-Trees; and even in the Kitchen-Ground it is often very hurtful, by being too freſh.

Cow-dung is very rich, and it has neither the Heat nor the Rankneſs of the other: it is fatty, and of long Continuance in the Ground. The Effect is not ſo ſudden as that of Horſe-dung, but it is more natural, and more laſting.

In all Reſpects therefore Cow-dung is beſt for Fruit-Trees, unleſs the extreme Coldneſs of the Soil declare for the other. This is a Fault we would have the Gardener early mend, by digging in Sand and Aſhes among the clayey Earth; but if that have been neglected, the Horſe-dung in this ſingle Inſtance is preferable to the other; but even in that Caſe it muſt not be freſh Horſe-dung that is uſed, but ſuch as has lain a long Time to mellow, and to evaporate its Heat.

Theſe are the two principal Dungs, but there are ſome others very well deſerve the Gardener's Notice.

Hogs Dung has many excellent Qualities: it is rich and not rank; it takes Effect very quickly, and is therefore of all others the beſt calculated to anſwer a preſent Exigence: it agrees with one kind of Soil as well as another; but if any continued Effect be required from it, there muſt be a freſh Quantity uſed every Fortnight.

Nothing appears ſo ſtrange in the Management of Gardens, as that ſo excellent a Manure, and ſo ſuited to the preſent Occaſions of the Ground for many Purpoſes, ſhould have been ſo thoroughly overlooked: there is ſcarce to be found a Gardener who ever uſed it, or a Book upon the Subject in which it is once recommended. We hope to make our Pupils better acquainted with its Value; and can aſſure them with perfect Truth, that nothing will be advanced here but on the unerring Foundation of Experience.

Sheep's Dung is rich and hot; the Effect is ſpeedy, but uſually too violent. Its Nature qualifies it for the ſame Uſe with Horſe-dung, in cold and heavy Grounds; and the beſt Way of uſing it, is in a Mixture with the Urine of the Creatures, in a ſandy Mould. The Method of obtaining this Manure, is delivered at large in the *Compleat Body of Huſbandry*; and it is excellent for Fruit-Trees in cold tough Soils.

The Dung of Fowls is light, very rich and hot; and of all Kinds that of Pigeons is the hotteſt. It may be very uſeful in ſtarved, poor, and cold Soils, but requires great Diſcretion in the Uſe.

From among theſe Kinds of Dung the Gardener is to chuſe for the preſent Occaſion of a new-planted Tree which is decaying for want of Nouriſhment; and in the ſame Manner for any other Service.

Of all the Dungs to be choſen for this Purpoſe, the Preference is due to that of the Hog; but unleſs Care be taken in applying it, no Good can be expected.

If the Gardener, on hearing that Hogs Dung was good for this Service, ſhould ſpread ſome upon the Ground, and fancy he had made a Tryal, he would abuſe his Inſtructor, and declare what he had read was falſe. This Dung ſoon loſes its Effect when uſed ever ſo prudently; but if ſcattered to the Sun in ſuch a Time as this, it would do nothing.

What I have found ſerviceable is this:

Mix equal Parts of Hogs Dung and Pond-Mud; ſpread this upon the Ground about the young Fruit-Tree, and give a large Watering. This done, ſpread over the whole an Inch Depth of freſh and fine Paſture Mould; and after two Days give ſuch another Watering. At the ſame Time ſecure the Tree perfectly from rocking; take off any decaying Leaves, and water the whole Head each Time.

The Effect is very ſurpriſing; two or three Days will reſtore a Tree that was periſhing.

A great Part of the Virtue of the Dung is waſhed in by the firſt Watering; it is after this covered by the freſh Mould, ſo that the Sun cannot evaporate it; and after it has lain thus mellowing with the freſh Earth and Mud, the joint Virtue of the Whole is carried in by the ſucceeding Waterings.

This would not be an adviſeable Method for Trees whoſe Fruit ſhould be expected that Year, for the ſudden Swelling upon ſuch Waterings is wrong; and this is a Way in which the Dung would affect the Fruit, but for young Trees nothing is like it.

SECTION IV.

CHLORIS, *or the* KITCHEN-GARDEN.

LET a Piece of Ground be choſen this Week for the late Crop of French Beans. It muſt be in a Part of the Kitchen-Garden open to the Noon-day Sun, and defended from the Eaſt and North. The Ground muſt be dug a full Spade deep; and it will be proper to ſcatter ſome very mellow Dung upon the Ground firſt of all, and dig it in.

Let the Surface be levelled, and let ſome good ſound Seed of the large white Kind be choſen. In the Morning put this to ſteep in ſome River Water, with a Handful of common Salt. In the Evening let ſome Drills be opened with a Hoe, at a Yard aſunder, and into theſe drop the Seeds. They ſhould lie about a Finger's Length a-part; and if Care have been taken in picking and ſoaking them, ſcarce one in a hundred will fail. The Ground muſt be levelled over them, and they ought to lie at about three Quarters of an Inch Depth.

In about eight Days they will appear above the Ground; and they muſt be encouraged in their Growth by frequent moderate Waterings: as their Stems advance in Height, they muſt have the Mould drawn up about them. After this they will only require the common Care of Weeding and Watering.

They will thus come to their Perfection at a very agreeable Time, after the early Crops are conſumed; and with due Care they will continue to produce till the latter End of *October*.

To keep the Plants in Vigour for this Produce, let the Gardener form his Practice upon the general Rule we have laid down in regard to all Vegetation, which is, that the ultimate End of Nature in the Growth of Plants is the Ripening of their Seeds; and that nothing exhauſts them like it.

Let him take Care to gather the Beans from theſe Plants as faſt as they acquire a due Bigneſs; for when they are ſuffered to remain any longer, Nature is at work to ripen their Seeds, and the great Purpoſe of a ſucceſſive Produce of young Fruit is ſtopped.

Let them be cleared of all that are of any Bigneſs, every third Day; and after every Gathering let them be well watered: this will promote the burſting out of a new Set of Flowers, and the ſetting of more Pods; and in this Kind of Bean the Growth of freſh Crops will continue as long as the old ones are taken off, till Froſt deſtroys the Plants.

The great Care of Weeding and Watering is to be continued this Week throughout all the Kitchen-Ground; but it is moſt eſſential to thoſe Kinds which have been newly tranſplanted.

The Endive and Celeri that have been planted out for blanching, muſt be conſtantly and regularly ſupplied with Water.

The Lettuces will require the ſame Refreſhment; and for both theſe Crops a great Care is required to protect them from the Slugs, or naked Snails: theſe ſhould be killed every Morning and Evening, and after Showers.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER XLIII.

For the ſecond Week in *JULY.*

SECTION I.

FLORA, *or* *the* PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. The BLOOD-SPOTTED CARNATION.

July.

Pl. 43. Fig. 1.

WE enter now upon the Flowers of Summer: what we have hitherto deſcribed are but the lateſt of the Spring, tho' interſperſed with ſome which wander from their proper Seaſons, and flower too early for their juſt Time.

The Diſtinctions in Nature are not kept up with Exactneſs on this Head; and thoſe have therefore uſed an uncertain Method, who arranged the Garden Flowers according to the Seaſons. We take them occaſionally as they come into Flower, in thoſe Gardens whence our Store of Obſervation is ſupplied; and the preſent Plate contains two Spring Flowers among thoſe of Summer, as the preceding have given ſome of the Summer Plants with thoſe of Spring.

The Carnation is the great Pride of the Floriſt's Summer Collection; and this Kind with which we open the Scene of their Beauties, tho' one of the earlieſt, is not the leaſt elegant.

It is one of the more ſimply variegated Kind; the additional Colour being ſimple, and laid on in Spots. This Diſpoſition is what gives a Carnation the Name of PIQUETTE. When the additional Colour is in Streaks, if it be only one, the Flower in their Language is called a FLAKE; if more than one, it is a BIZARRE.

July.

Theſe are the Gardeners Diſtinctions: 'tis fit our Pupil know them, that he may be able to call each by its proper Title; and if to theſe he adds the two-coloured Kind, which has the white on the under Side of the Petal, and the purple entire on the upper, to which they give the Name of PAINTED LADY; he has all their general Terms.

Under each of theſe Heads there are innumerable Diſtinctions of Flowers raiſed from Seeds; and theſe the Gardeners have named after the Heroes of old Time, DARIUS and ACHILLES; or after their Maſters. Science would ſmile to enumerate theſe, nor would Volumes contain them.

REA, who wrote half a Century ago, has named more than four hundred; and our Induſtry ſince his Time has made that Number trifling.

All theſe, that is every thing which is properly called a Carnation, the Botanical Student is to know, are Seedling Varieties of the common Clove July-flower, ſo named expreſſively from its Scent reſembling that of the Clove Spice, and from *July* its Time of flowering.

From this Stock we ſhall trace them under the ſucceeding Head, which is the Clove Julyflower little altered, nor yet broke into Spots or Streaks, or other Diviſions of different Colours.

July.

They have erred, who ſuppoſed the Julyflower itſelf might be refered to the common Pink, for it is a Species truly diſtinct.

We have in this Place given the three in Succeſſion; that the Botanical Student may comprehend their true Nature without Confuſion, and the Gardener read their proper Difference.

Thoſe who have conſidered the Carnations as diſtinct Kinds, and honoured them with particular Names, have called this blood-ſpotted Flower the *Red Piquette*, and the *Red Pounced Carnation*: and the *Latin* Authors, *Caryophyllus maximus variegatus*, and *Betonica coronaria, flore pleno maxima, punctis rubris variegata.* The firſt is the Name of CASPAR, the other of JOHN BAUHINE.

In the plain or ſimple State, the ſame Authors have called the Plant *Caryophyllus altilis major*, and *Betonica coronaria ſativa.*

Theſe and the other Varieties LINNÆUS comprehends under one general Name. Having uſed the Word *Caryophyllus* as the Denomination of the Clove Spice Tree, he appropriates for this, the Term *Dianthus*; and adds, as the Name of the preſent Species, *floribus ſolitariis, ſquammis calycinis ſubovatis, breviſſimis, corollis crenatis:* Single and dented-flowered *Dianthus*, with the Scales of the Cup very ſhort, and of a Figure nearly oval.

This is the diſtinct and proper Name of the ſingle Clove Julyflower, and it equally agrees with all the others.

The Number and the Colouring of the Petals in a Flower our Student knows is no Mark of a ſpecific Difference: this is all the Variation, though unlimited in the Diſpoſition, which there is between the common Flower and the whole Family of Carnations raiſed from it; the *Piquets*, *Bizarres*, *Flakes*, and all the reſt of our Carnations.

The Plant is unaltered thro' all theſe Varieties of the Flower, and the ſame Deſcription will always ſuit it.

The Root is fibrous.

The Stalk is round, ſmooth, and of a pale pearly green, jointed with ſwelling Knots, two Foot high, and divided into a few Branches.

The Leaves are of the ſame Tinge with the Stalk, but deeper, a pearly grey mixed with a light green: they are oblong, narrow, graſſy, ſharp-pointed, and of a firm Subſtance, and they ſtand two at each Joint.

The Flowers terminate the main Stalk and all its Branches, and they are large and elegant, full of Petals, diſpoſed with great Regularity, and ſtained with lively Colours.

The Cup is double; the inner one cylindrick and long; the outer compoſed only of four ſlight Scales. Theſe riſe immediately from the Head of the Stalk, and are oval, pointed, and of a firm Subſtance: two of them have their Situation a little lower than the others: from the Hollow made by theſe, riſes the inner or cylindrick Cup; this is what Gardeners call the Pod of the Carnation: it is of a pale Colour and firm Subſtance, erect, hollow, and divided at the Top into five Parts. Theſe were meant by Nature to give an eaſy Opening for the Petals; and the Gardener muſt aſſiſt, by cutting them down farther, when he has raiſed the Plant in its full Size and Glory.

July.

The Body of the Flower is compoſed of numerous regular and elegant Petals; their Ground Colour is a pure and perfect white; and upon this are ſcattered little Dots of various Forms, of full and fine Blood-red; theſe ſeldom run into one another; they leave no large Space of the Petal vacant, nor are they in one Part more numerous than in another. In this conſiſts the Beauty of the Flower: from this State there are innumerable Variations. In the Place of regular Spots the Red will ſometimes run into Clouds; and inſtead of this deep Blood-Red it will be pale and faint, or tinged with Blue, and emulate the Purple.

The Student who would refer the Plant to its proper Claſs, muſt examine a ſingle Clove Julyflower: from this Stock it is derived, and he will here find the regular and unaltered Characters.

The Petals are five: they have long narrow Baſes, equal to the Depth of the inner Cup: the Body of each Petal is broad, obtuſe, and notched.

In the Centre riſe ten Filaments; they are ſmalleſt at the Top; their Length is equal to the Cup, and they have ſpreading Buttons, of an oval but ſomewhat oblong Form, compreſſed and incumbent. In the Midſt of theſe appear two conſpicuous Styles, longer than the Filaments, with crooked pointed Tops.

The ten Filaments refer the Plant to the *Decandria* of LINNÆUS, and the two Styles place it under the ſecond Section, the *Digynia.*

The Culture of this is the ſame with that of the other Carnations, which we ſhall deliver at large in a ſucceeding Number, deſcribing two other very conſpicuous Kinds: in this we have propos'd to acquaint the Student with the true Form and Characters of the Flower, and the Nature of its innumerable Variegations.

2. The GREAT CRIMSON CARNATION.

Pl. 43. Fig. 2.

We have obſerved that the Carnations are all ſeminal Varieties of the Clove Julyflower, variouſly altered by Culture in the Size, Number, and Colours of the Petals: this is leſs altered than moſt others. The Colour is ſimple, though the Form very elegant, and it may not improperly be called the double Crimſon Julyflower.

LINNÆUS comprehends it with the reſt, under the Name we have expreſs'd, as the proper Denomination of the preceding Kind, nor does it differ

July. in the general Aſpect or Manner of Growth, unleſs in that it is larger.

The Root is compoſed of many long and thick Fibres.

The Stalk is two Foot high, round, ſlender, but firm; jointed, and of a pale green.

The Leaves are placed in Pairs, and are narrow, and ſharp-pointed.

The Flower is very large, and full of Petals; they are broad and deeply jagged at the Edge.

The Colour is a deep and fine Crimſon, without any Spots, Streaks, or other Variegations; and the Petals naturally ſpread out in a bold and pleaſing Manner. July.

The Beauty of this Kind is Doubleneſs, but it will ſometimes riſe ſingle; and is then far from a deſpicable Flower.

This is one of the firſt and eaſieſt Changes from the common Clove Julyflower; and its Seeds are a very proper Kind for raiſing more Varieties. The Manner, we have obſerved already, will be given in a ſucceeding Number.

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3. GREAT TOBACCO.

Pl. 43. Fig. 3. This is a tall and not inelegant Plant; familiarly enough known now of ſome Years, but not unworthy a Place in any Garden among the taller Growths.

It was altogether unknown to the Antients, for we have received it from *America*, nor is it Native of any other Part of the World: the Reader is therefore to expect no antient *Greek* or *Latin* Name for it.

From Nicot, who firſt brought it into *Europe* in 1559, the Plant obtained the Name *Nicotiana:* this has been the moſt received but not the only one in Uſe: ſome have taken the *Braſilian* Term *Pætum*, others have made *Latin* of the Word Tobacco, by which we uſually call it in *Engliſh*; and ſome affecting more Correctneſs than they had Application to poſſeſs, refered it to the Henbane Kind, and called it *Hyoſciamus Peruvianus*.

C. Bauhine, and the other Writers of his Time, have called this Species *Nicotiana latifolia*, broad-leaved Tobacco; but that is an ill-choſen Term, for there are ſome other Species whoſe Leaves are proportionably broader.

Linnæus retains the Name *Nicotiana*; and adds, as the Diſtinction of the Species, *foliis lanceolatis:* Tobacco with lanceolate Leaves.

What he expreſſes by *lanceolate*, is a Leaf broadeſt in the Middle, and ſmall to the Point; and this perfectly characteriſes the Plant; for no other known Species has them of that Form. It is entirely diſtinct from the Henbane, and all other Genera; and is the Kind of *Nicotiana*, of whoſe Leaves there is that vaſt Conſumption for the Articles of Tobacco and Snuff.

The Root is compoſed of numerous thick white Fibres, connected to a ſmall Head.

The Stalk is two Yards high, round, firm, of a pale green tinged with a reddiſh brown, and toward the Top branched; hairy, and full of a ſpungy Pith.

The Leaves are large, and of a light green; they have no Footſtalks; but adhering to the Stem by a broad Baſe, they are thence dilated each Way to the Middle, and from that Part again grow ſmaller to the Point. This is the lanceolated Form.

The Colour is pale in the upper Leaves, and they are hairy, as the Stalk. The Ribs are large, their Taſte is very acrid, and they tinge the Spittle yellow.

The Flowers ſtand in great Numbers on the Tops of all the Branches, and they are large, and of a delicate though not ſtrong Red.

The Seed-veſſel is large, and of an oval Form, and contains numerous Kidney-ſhaped Seeds.

Each Flower has its Cup, which is of an oval Figure, ſhort, of one Piece, divided into five ſlight Segments at the Verge; and this, as well as the Leaves and Stalk, are clammy to the Touch.

The Flower is formed of a ſingle Petal, and is Funnel-ſhaped. The Tube is very long, and the Mouth broad and ſpreading, divided by Indentings and Foldings into five Parts. Within this are placed five Filaments, with oblong Buttons, and a ſingle long ſlender Style with its Head.

The five Filaments refer the Plant to the fifth Claſs of the Linnæan Syſtem, the *Pentandria*; and the ſingle Style to the firſt Section under that Head, the *Monogynia*.

Culture of this Tobacco.

It is an Annual, Native of the warmer Parts of *America*, but living very well in the more Northern Latitudes; and with due Care, and with a very little Trouble, may be raiſed to the greateſt Perfection in our Gardens. It would not be difficult to cultivate it in Fields for Uſe, if the Laws gave Permiſſion.

The Plant loves a deep rich Soil, and with us will ſucceed beſt in a ſheltered Situation.

The Seeds muſt be ſown at the latter End of *February*, on a common Hot-Bed, and the Plant muſt be treated with the ſame Management as the other tender Annuals: when it has been removed about twice, and is hardened to the Air, it muſt be planted in rich Garden Mould, well dug, and be allowed full Scope of Room. The Plants ſhould ſtand four Foot aſunder, and the Earth be hoed once in a Fortnight between them: they will thus grow in as much Vigour as in *America*, and produce innumerable Flowers.

The Care of ſaving Seeds for a next Year's Crop, ſhould come early into the Gardener's Mind: he ſhould mark the ſtrongeſt Plant as ſoon as they come into Flower, and not ſuffer this to exhauſt itſelf by too large a bloom: he ſhould cheriſh the ten or twelve Flowers that firſt open, and take off all ſucceeding Buds. Thus the whole Strength of Nature being employed on theſe, the Seeds will be ripened in a moſt perfect Manner, and his next Year's Plants will very well ſhew the Effect of his Care.

4. DOUBLE ROSE CAMPION.

Pl. 43. Fig. 4. The Gardener is well acquainted with this Plant, and its eaſy Culture: he knows that *Campion* is the *Engliſh* Name of *Lychnis*, ſynonymous with *Catch-fly*; and he cannot need be told, that this particular Kind obtained the Addition of Roſe from the glorious red, and Luſtre of the Flower.

It has long been an Ornament of our Gardens, and from all Time the Botanical Writers have deſcribed and celebrated it.

Dioscorides has mentioned in too expreſs Terms to be miſunderſtood; and from him many of the later Authors have called it *Lychnis Coronaria*, Dioscoridis *ſativa*; others *Lychnis Coronaria*, and Camerarius ſimply *Lychnis*.

Our Student muſt be told that Linnæus, whom all with Reaſon follow now in Botany, has diſcovered in the Characters of the ſeveral Plants joined by others under the common Name *Lychnis*, the Foundation of a Diſtinction into ſeveral Genera. This is highly uſeful, for the Extenſiveneſs of the old Genera was one of the greateſt Faults of the Syſtems.

He has ſeparated from the reſt the Cockle, this, and ſome others; and given the new eſtabliſhed Genus the Name *Agroſtemma:* to which as the Diſtinction of the preſent Species, he adds, *Tomentoſa, foliis ovato lanceolatis, petalis integris coronatis:* woolly Agroſtemma, with lanceolate oval Leaves, and undivided coronated Petals.

By this Name he expreſſes the *Roſe Campion* in its ſingle State, and our Pupil knows that no peculiar Denomination is needed to this double Flower; a Multiplicity of Petals never being underſtood as a Mark of a diſtinct Species, but of a ſeminal Variety.

The Root is long and hung with innumerable thick Fibres.

The Leaves riſe in a vaſt Tuft, and are oblong, and lanceolate, but with ſomewhat of the oval Form. They are white, woolly, and ſoft to the Touch.

The Stalks riſe among theſe numerous, thick, round, jointed, and two Foot or more in Height. They are woolly and whitiſh as the Leaves, and toward the Top they ſend out many Branches.

The Leaves ſtand in Pairs on theſe, and are oblong, pointed, and of the ſame whitiſh Colour, with the ſame woolly Covering. They have no Footſtalks, but partly encloſe the Stalk at the Baſe.

The Flowers terminate the main Stem, and all the Branches. They are very large, double, or full of curled and waved Petals, and of a moſt elegant and rich crimſon. This would be in any Plant extreamly conſpicuous; but in this it is elegantly heightened by a Contraſt with the Leaves.

The Student knows he is to find a ſingle Flower in order to trace the Characters of the Plant; for in this Multiplicity of Petals the Filaments are often obſcured, obliterated, or loſt.

In the ſingle *Roſe Campion* he will ſee the Cup compoſed of one Piece; tubular, of a tough Subſtance, and cut into five ſlender Segments at the Rim.

The Body of the Flower is compoſed of five Petals. Theſe have narrow Baſes of the Length of the Cup, and their Bodies are ſpread open, broad, and obtuſe.

In the Centre ſtand ten Filaments, ſmall at the Top, and fixed in an alternate Order to the Baſes of the Petals. They are crowned with ſimple Buttons.

In the Midſt of theſe riſes an oval Rudiment; and from it five Styles of the Length of the Filaments, crowned with ſimple Heads. An oval Seed-veſſel follows, containing numerous dotted Seeds.

The ten Filaments refer this Plant to the *Decandria* of Linnæus; and the five Styles to the fifth Section under that Head, containing the *Pentagynia*.

Culture of this Lychnis.

The Plant is a perennial, hardy, and ſpreading at the Root: it is a Native of *Italy*, and of the *Greek* Iſlands, and has been very long introduced into the Gardens of the more northern Parts of *Europe*.

The Student muſt not wonder that we aſcertain this as the *Lychnis* of the old *Greeks*, though they have left but ſhort Accounts of it; a Practice we have often Occaſion to lament in their Writings concerning Plants, too common at that Time to need Deſcription. What they have ſaid agrees with it perfectly; and Pliny, who at random places the *Lychnis* among the Roſes, yet gives ſome Confirmation; for he ſays the Petals of the Flower never exceeded five in Number.

The Antients therefore, though they eſteemed the Plant, knew it only in the ſingle State of the Flower.

In this meaner Condition it is ſtill beautiful; and though neglected with us who have doubled the Flowers, and varied their Colouring, they were fond of it in Flower Pots, Feſtoons and Garlands; and wanting Cotton, they uſed the downy Subſtance which covers its Leaves for the Wicks of Lamps. Hence was derived its Name *Lychnis*, from the *Greek* λυχνου, a Lamp; and therefore 'tis to be lamented, that LINNÆUS varied it.

He has uſed *Lychius* as a Term for another Genus; which not having this Character, could not have been called among the Antients by that Name.

The Addition of Roſe to its Name ſeems to have come down to us from PLINY, who conſidered it in his rude Way as a Roſe; but he adds to the Certainty of this particular Plant being meant, by his obſerving that it has no Smell.

From this wild Plant the common ſingle Field *Roſe Campion*, improved by the Culture then known in *Greece* and *Italy*, our ſuperior Art has raiſed the elegant double Flower we here repreſent; and ſome other fine Varieties.

The Plant requires a deep Soil; and will grow in any that has that Quality. It is eaſily increaſed by parting the Roots: but this, though it ſatisfy the common Gardener, is not the Method to Perfection.

To raiſe all the Varieties of it in their full Beauty, a proper Soil muſt be adapted; the Plants muſt be raiſed from Seeds; and according to our Method of tracing every Article from the very Origin of Improvement, this muſt be undertaken in the following Manner:

Mix equal Parts of rich Paſture Earth, and River Mud: to a Barrow of this add three Pecks of coarſe but clean Sand, and one Peck of Wood-pile Earth; and the ſame Quantity of Cow Dung, old, and well rotted. This is the proper Soil; and in this I have found the Plant thrive beyond what is uſually to be ſhewn.

This ſhould be mixed up in Autumn, and lie a Year; it ſhould be turned often to blend its Parts, to give it the Influence of the Air, and to prevent the Growth of Weeds.

This being prepared, let the Gardener mark a Plant of the common ſingle *Roſe Campion* for Seed. Let him chuſe a ſtrong and healthy Root, and watch its flowering. Let him cut off all Stems but the principal; and when about a dozen Flowers are open, let him take off three or four of the weakeſt, and worſt looking of theſe; and after that, pull off all others in the Bud juſt as they are about to open. Thus will the whole Effort of Nature be employed on ripening the Seeds of theſe eight or nine Flowers; which the Gardener muſt alſo promote by clearing the Ground for a Yard about the Plant, and at Times breaking and watering it.

When the Seeds are thoroughly ripe, let him harden them upon a papered Shelf, in an airy Room, and in the Middle of *Auguſt* ſow them in a ſhelter'd Part of the Nurſery, upon a Bed of the Compoſt raked very fine. Let them be covered a Quarter of an Inch with Mould, and a Hawthorn Buſh laid over the Ground.

In this Bed they muſt be kept carefully weeded and watered till big enough to remove.

The fineſt Plants muſt then be tranſplanted to a new Bed of the ſame Compoſt, and ſet at ſix Inches Diſtance.

The others being left at the ſame Diſtance in the Seed-bed. They muſt in both Places be from time to time weeded and watered, and they will come to Flower the firſt Year.

There will be found among them a great many of the common Kind, but ſeveral alſo of other Colours: the beſt of theſe muſt be planted out in the Garden in the latter End of *Auguſt*, and Seeds from the fineſt of thoſe improved Plants muſt be ſown in the ſame Manner.

Thus from two or three Sowings there will be produced all the known Varieties of the Plant: There will be many double Flowers; and of theſe, as well as the ſingle, there will be a Variety in Colouring. Some will be of the natural deep, velvety crimſon of the original Flower; ſome deeper yet, and purpliſh; others paler and approaching to the Peach-bloom Colour, and ſome white; but the moſt elegant of all will be the large double Flowers, whoſe ground Colour is white, and whoſe Petals are ſtained curiouſly with a fine Bluſh of red, pale, and fleſhy.

Theſe fine Flowers obtained from Seed, muſt be nurſed afterwards with all Care. The Roots muſt be taken up every Seaſon after the flowering is over: the beſt Time for this is the third Week in *Auguſt*. The Compoſt ſhould be removed, and freſh put in its Place at this Time, and all the young Heads which have been produced about the old Root ſhould be taken off; the dead Leaves taken off from them, and from the old ones, and the Fibres trim'd.

The old Roots being thus cleaned, muſt be planted in freſh Compoſt at fifteen Inches Diſtance, and they wlll then flower in full Perfection the ſucceeding Year.

The Off-ſets will be too ſmall to bring into the Flower Garden; and they ſhould be planted in a Nurſery Bed of the ſame Compoſt, at five Inches aſunder, to ſtand till they are in a flowering Condition.

The old Roots muſt be kept clear from Weeds; and when the Mould between them is too dry, a little Water muſt be allowed; but this muſt be given in Moderation, for too much impairs their Strength.

In Spring let every Plant be looked carefully over; all dead Leaves taken off, and the Ground broke about their Roots.

At this Time a ſmall Caterpillar is apt to lie concealed in the Heart of the young Shoot, and to be very hurtful. Let the Leaves be pulled aſunder, and the Creature taken out; and if this do not prove effectual, ſome Tobacco Duſt muſt be ſtrewn over the Plants. This generally deſtroys them.

The two fineſt Kinds of *Roſe Campion* are the double purple, and the double white ſtained with red, called the *Maiden's Bluſh.* The former of theſe does beſt in the free Ground, the latter in a Pot.

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5. COMMON GARDEN PINK.

Pl. 43. Fig. 5. If there were no Carnations the common Pink would be eſteemed: but they are ſo like it, and ſo much ſuperior, that it is ſeen in an ill-light in the Compariſon.

We have obſerved before, that they err who ſuppoſe the Carnation raiſed from it by Culture, the Species is different: but as the Clove July-flower, under the curious Gardener's Hand, produces all the Variety of that elegant Flower, this common Pink affords ſeveral beautiful Varieties.

All the old Writers have mentioned it; and under the general Name *Caryophyllus,* they add *vulgaris* and *hortenſis.*

C. Bauhine calls it *Caryophyllus ſimplex flore minore pallide rubente,* and *Lobel Caryophyllus flore pallido ſuave rubente.*

We have had Occaſion to obſerve before, that Linnæus has changed the generical Name in this Inſtance, and calls the Plant *Dianthus:* he adds as the Diſtinction of this Species, *floribus ſolitariis ſquammis calycinis lanceolatis binis, corollis crenatis:* ſingle flowered Dianthus, with the two Scales of the Cup ſpear pointed, and the Petals indented.

The Root is compoſed of numerous long and tough Fibres, connected to a ſmall Head.

The Stalks are weak, and lie in part upon the Ground, they are very numerous; their Colour is a pale greyiſh green, and their Height about a Foot.

The Leaves are placed in Pairs, and the Stalks at the Origin of every Pair have a round Joint or Knot: they are narrow, pointed, of a firm Subſtance, and of a whitiſh green.

The Flowers are numerous: One always crowns the principal Stalk, and there are ſeveral others on the Tops of Side-ſhoots; they are naturally of a pale Fleſh Colour, with a Crown of a deeper Colour in the Centre.

Each is placed in a long cylindrick Cup, at the Baſe of which is a ſmaller, compoſed of pointed Scales.

The Petals are five; they have long narrow Baſes, and they are deeply cut and jagged at the Edges. Ten Filaments ſtand within as in the Carnation, with two Styles; theſe refer the Plant to the ſame Claſs and Section, the *Decandria Digynia.*

Culture of this Pink.

The Plant is a Native of moſt Parts of *Europe*; and wherever the Chance of Winds has thrown it by Seeds blown from Gardens, it thrives as well in *England* wild, as with all the Aſſiſtance of Art.

Where it is Native, the Soil which favours it moſt is rocky, dry, and barren: in the ſame Manner we never ſee the Flower in greater Perfection than when the ſcattered Seeds have ſtruck upon a Wall, and the Plant hangs, wildly wantoning in the Winds, from the Coping.

Something like this we ſhould attempt in Gardens; and as 'tis the Buſineſs of ingenious Art to improve upon the Hints given by Nature, our Endeavour ſhould be to give the Plant as dry and warm a Soil as it loves wild; but not ſo barren.

On this dry Quality of the Earth in which it grows, depends the Fragrance of the Flowers. That Quality is in a great Meaſure loſt when the Plant has an ill choſen Soil; but in the perfect State of Nature it is of a fine Smell at a conſiderable Diſtance.

The common Way of propagating Pinks is by Layers, which they produce in Abundance, and which take root very readily: but this limits the Gardener to a few Kinds; and as he generally plants theſe at random, without regard to the Soil or Expoſure, they ſeldom attain their full Beauty. The true Method is to raiſe them from Seed, and he who ſees the Effect will never think the Trouble to have been too great.

The Soil I have found to ſucceed beſt with the Pink is a Mixture of good dry Paſture Earth, and the Rubbiſh of an old Wall; about one fifth of the latter is a fit Proportion; but 'tis an eſſential Article that the Mixture lie a Year before it is uſed.

In the Seaſon let ſome good Plants be marked for Seed; theſe ſhould be ſuch as have the firmeſt Stalks and faireſt Flowers.

Let the Seed be ſaved with the uſual Care; and in the Beginning of the *April* following, let it be ſown in the Nurſery on a Bed of Paſture Earth, without any Mixture, freſh taken up, and broke extreamly fine. A Quarter of an Inch of the ſame Mould muſt be ſifted over them; and when the Bed is dry a little, Water muſt be given with great Care.

In the Beginning of *May* the Plants will appear, and about the Middle of *June* they will be fit to remove.

A Bed muſt be then prepared with the Compoſt; and Lines being drawn at four Inches Diſtance along and acroſs, the young Plants muſt be brought in and placed, one in the Middle of every Square. They muſt be watered at Times till they have taken root; and weeded carefully.

In the latter End of *Auguſt* they muſt be again tranſplanted into another Bed of the ſame Compoſt, and allowed eight Inches Diſtance. They

July.

muſt be weeded and watered carefully in this Bed, and kept without any farther Removal to flower.

When it is ſeen which are fineſt, they muſt be the ſucceeding Autumn tranſplanted again into a freſh Bed of Compoſt, and placed at a Foot Diſtance, that there may be room for laying the Shoots in order to encreaſe them farther.

July.

In this Manner the good Kinds are to be encreaſed; and from theſe Sowings of the common Pink, will be produced many very elegant Varieties; the Pheaſant's Eye, the old Man's Head, the Shock, the Damaſk, and many which have no Names; for every large Sowing will produce a new Flower or two; and the Stock thus encreaſe continually.

6. MAJESTICK CROWN IMPERIAL.

Pl. 43. Fig. 6.

The common Crown Imperial is well known; and this, though an elegant Kind, is nothing more than a Variety from Seed; flowering later, and diſtinguiſhed by the Splendor of its Colouring, and by the ſecond Stage of Flowers. Sometimes there riſes above theſe a third from the ſame Wantonneſs of Nature, under a delayed Plantation, and rich Soil.

The Flowers in the ſecond, and even thoſe in the third Crown, will ſometimes arrive at a tolerable Luſtre; but when they do not, they are ſtill a greater Advantage: they terminate the Stalk agreeably, and they draw up abundant Juices; which, if not employed to bring themſelves to Perfection, feed the lower Stage with a more than uſual Nouriſhment.

The Writers on Flowers have all named this Variety, and too many of them in their uſual Way, have treated it as a diſtinct Species. They call it *Corona imperialis duplici corona*, and *Corona imperialis triplici corona*: the Crown Imperial, with a double and with a triple Crown; and when the Flower have been diverſified in Colour, they have named it as if yet another Species, *Corona imperialis flore luteo ſtriato*: the ſtriped flowered Crown Imperial. J. Bauhine has called it alſo *Tuſai*; and Caspar Bauhine refers it to the Lillies.

Linnæus, much more correct than theſe, denies it a diſtinct Genus; for the Characters are the ſame with thoſe of the Fritillary: he refers it to that Kind; and for Diſtinction of the Species adds, *racemo comoſo inferne nudo, foliis integerrimis*: Fritillary with undivided Leaves, with a leafy Head, and the Stalk naked under the Flowers.

The Root is bulbous, but of a particular Form, rounded, thick and flatted; and is compoſed of many thick, pointed, juicy Scales; of a yellowiſh white, more or leſs tinged with purple, and of a diſagreeable rank Smell.

From this, early in Spring, burſts through the Mould a vaſt firm Shoot, cluſtered with Leaves, and loaded with the Buds of many Flowers. As the Plant advances in Height, it acquires a more regular Form.

The Stalk riſes to two Foot and a half in Height, and is very thick, firm, ſtriated, and green.

The Leaves are placed irregularly, and in great Numbers about the lower Part of it: they are long, moderately broad; of a fine green, ſharp pointed, and undivided at the Edges. For ſome Space above theſe Leaves the Stalk is naked, ſmooth, of a faint yellowiſh green tinged with a purpliſh Caſt; and frequently ſpotted very beautifully. At the Top ſtands an elegant Head, compoſed partly of Flowers, partly of Leaves.

The Flowers are eight or ten in number, and they riſe each between two of thoſe Leaves which form the comoſe Head. Theſe Leaves are placed obliquely upwards, and form a Crown like that of the Pineapple.

The Flowers hang down as in the other Fritillaries.

Each has its ſeparate Footſtalk; and in the common State of the Plant, theſe, with the Crown of Leaves, terminate the whole. But in the redundant Condition wherein it is here figured, the main Stalk is not terminated by the Head of Flowers and Leaves, but continued thro' them: and after running up naked and ſlender to a little Height above the Tops of the Leaves, it has a ſecond ſmaller Crown of Leaves and Flowers, diſpoſed exactly as the firſt, but leſs.

Above theſe there will alſo ſometimes riſe another.

The Flowers in theſe upper Stages perfectly reſemble thoſe of the lower, but they are leſs beautiful.

Each Flower is compoſed of ſix oblong, parallel Petals, diſpoſed in a campanulated Form, and without a Cup.

At the Baſe of each Petal, on the Inſide of the Flower, is a conſpicuous hollow, rounded and filled with a tranſparent Liquor: theſe are the Nectaria of the Plant.

The Filaments are ſix, and the Style is ſingle.

The Buttons are oblong and ſquared, and the Head of the Style is divided into three Parts. This ſhews the Plant to be one of the *Hexandria Monogynia* of Linnæus, his ſixth Claſs, and its firſt Section.

The Colour of the Flowers is yellow: but under the various Stages of Culture they have this in different Tinges and Degrees. In the Condition wherein we repreſent it, the yellow is ſtrong, and not unfrequently there run through it Stripes of a fainter Gold, very pleaſing.

Culture

Culture of this CROWN IMPERIAL.

The common Method of propagating the Plant is by its Off-ſets; theſe are produced freely, and they grow with little Trouble to Perfection: but we ſhall recommend in this, as in all other Inſtances, where there can be Varieties obtained, the raiſing it from Seed.

To this Purpoſe, let the Seeds be ſaved from ſuch Plants as are robuſt, and have a great Number of Flowers.

Let this be ſown in Autumn upon any of the light Composts, and the young Plants weeded and watered.

When their Leaves decay, let them be covered with a Finger's Breadth of the ſame Soil ſifted over them.

The next Year let them be planted at ſix Inches Diſtance in another Bed, and there ſtand to flower.

Let the fineſt be marked, and tranſplanted into a new Bed, at two Foot Diſtance; and if theſe double and triple crown'd Kinds do not appear from this Sowing, let the Seeds of thoſe ſelected Plants be ſown again, and treated with the ſame Care.

When the fineſt of this ſecond Sowing have been planted out in their proper Beds, let them be propagated by Off-ſets.

The true Management is to take the Roots up as ſoon as the Leaves decay, and hardening them in the Air, to keep them out of the Ground till *Auguſt*.

They muſt then be planted at a Yard Diſtance, and this repeated every Year, taking off the Off-ſets, and planting them in a Bed in the Nurſery, till they are of a Bigneſs to flower in Perfection.

7. GREAT CHALCEDONIAN ANEMONE.

Pl. 43. Fig. 7.

This is the lateſt of the Anemone Kind, and one of the moſt beautiful. At whatever Time it flowered, the Elegance of its Colouring would deſerve Attention; but there is a great additional Merit in its thus mixing its Spring Colouring with the Bloom of Summer.

Moſt of the Writers on Flowers have mentioned it: they call it *Anemone Chalcedonia maxima*, and *Maxima Polyanthos*. Others, *Anemone latifolio flore coccineo:* the ſcarlet broad-leaved *Anemone*.

LINNÆUS, who reckons all the Variations of Colouring, and Number of Petals in the Flower, as the Marks only of Seedling Varieties, diſtinguiſhes the original Plant to which this is to be refered, by the Figure of its Leaves. He calls it *Anemone foliis digitatis*, Finger'd-leav'd *Anemone*. This is his Diſtinction of what is commonly called the broad-leaved from the narrow or fine-leaved *Anemone*.

The Root is tuberous, blackiſh on the Outſide, white within, and hung with many long and large Fibres.

The Leaves are placed on long Footſtalks, and they are of a rounded Form, but deeply cut in at the Edges.

Their Colour is a pale green on the upper Side, and they are frequently tinged with a purpliſh Hue below.

The Stalk is round, hairy, of a pale green, and tolerably firm, a Foot high, and ſometimes branched.

Toward the Middle of this is placed a leafy Appendage, divided into three irregular principal Parts, and theſe are deep cut in again at their Edges. The Colour is like that of the radical Leaves, but without the Purple underneath.

On the Top ſtands a large and very ſpecious Flower: it is compoſed of ſeveral Series of Petals, as the other double Anemones: the outer ones broad and obtuſe; thoſe of the inner Ranges, narrow, waved, and curled.

The Colour is a very elegant Scarlet, variegated ſometimes with a paler red, ſometimes with a delicate green.

The Characters of the Plant our Student knows he is to ſeek in a ſingle Flower. This in the preſent, as in the other Anemones, conſiſts of two Rows or Series of Petals, three in each, and ſtands naked on the Stalk. Within are a Multitude of ſhort and ſlender Filaments, with upright doubled Buttons, ſurrounding a Cluſter of Rudiments of Seeds, each terminated by a pointed Style.

The Filaments riſe from the Receptacle; and this with their Number ſhews the Plant one of the *Polyandria:* the Number of Styles alſo refer it to the *Polygynia*.

Culture of this ANEMONE.

There is nothing particular in the Culture of this Anemone: it riſes from the Seed of the ſingle broad-leaved Kind, and muſt be encreaſed by parting the Roots.

All that is particular in the Management, is, that it ſhould be planted late, and in a Place ſheltered from the Sun; this will favour its natural late Flowering, and defer it to the preſent advanced Seaſon, at which it will be much more valuable, than appearing when it might be rivalled by Numbers of its Kindred. Flowers later than their natural Time have generally a faded Aſpect, but it is not ſo with this; under the Management we have directed it will be as full of Luſtre as thoſe in Spring.

1
The
ood spotted
arnation
2
Great Crimson
arnation
3
Great Tobacco
4
Double Rose Campion
5
mmon Garden
Pink
6
Majestick Crown Imperial
7
Great Chalcedonian
Anemone

CHAP. II.

Care and Management of the Ground.

THE Borders being perfectly clean, the Plants ty'd up, and the Walks in Order, the great Attention of the Gardener for thoſe in the common Ground, muſt be to defend them from Drought. If he now ſpare the needful Labour of Watering, all his former Skill and Toil will be in a great Meaſure fruſtrated. Let him obſerve to give this all over the Plants; but to do it carefully, and from a Pot that has a fine Noſe.

In general, Plants that are taking their Growth muſt be allowed more Water than thoſe which are juſt going to flower. Every one knows how much the Flavour of Fruit may be impaired by too much Watering; and 'tis the ſame in the Scent of Flowers, and in ſome Degree in their Colours. Many elegant Plants are ſpoiled by the Gardener's not knowing, or not obſerving this: ſome Watering is needful to ſwell the Buds; but when the Flowers are opening, the leſs the better.

The beſt Water for all Flowering Plants, is that of a ſhallow Pond, and which is open to the Sun; and the beſt Time of giving it is two Hours before Sun-ſet.

It ſhould always be a Rule, that the Water uſed to a Plant be ſomewhat warmer than the Temperature of the Mould; for if in the other Extream, it naturally chills the tender Fibres; and 'tis very difficult to make it exactly the ſame.

Every Day let the Gardener look over thoſe Plants which ſtand for Seed; and as the Heads or Pods harden, let him cut them off, and lay them with Care upon a papered Shelf to dry.

It is a common Cuſtom to take off the Head of the Plant at once, when there are many Pods upon it; but in this Caſe, the Seed in thoſe which flowered laſt, will not be ripened; and probably that in the Pods following the firſt Flowers, will be loſt; and this is the beſt Seed of the Plant.

From what I have ſeen of the Appearance, Difference, and Growth of Seedlings, I am convinced that the Number of bad Plants often produced from Seed, depends principally upon this Article. In the Way here directed, none of the Seed will be loſt, and none will be preſerved but ſuch as is in a Condition of growing.

This done in the Borders, let the Gardener look again over his Orange Trees. We have told him what Fruit they are which are moſt likely to come to Good; and he ſhould now give them the laſt Overlooking, to ſee which muſt be taken off. Oranges may require to be thined upon the Tree as much as any other Fruit.

Their Excellence is in their obtaining a due Growth; and this they cannot do in our Climate if they are produced on weak Parts of the Tree; or if, in the very beſt Parts, they crowd one another.

Therefore wherever an Orange ſtands upon a weak Shoot, it ſhould be taken off; and where two or more ſtand too cloſe to one another, the weakeſt and leaſt promiſing muſt be pulled away. There is more Beauty in a Dozen well ripen'd Oranges upon a Tree, than in a Hundred that have ſtarved one another.

The Diſtance at which we direct the Fruit to be left, will alſo ſhew it to Advantage; for the golden yellow is never ſo well ſeen as when in Contraſt with the full and fine green Leaves.

The Pine-Apple Plants will at this Time require a particular Care: the Fruit will be ripening faſt upon them, and there is an Advantage in the early Time, which muſt not be neglected. The Plants from which this Fruit is cut will readily produce Suckers; and thoſe which come earlieſt are vaſtly the beſt, for they will be got off before Winter.

To promote the Tendency there is in Nature to this, as ſoon as the Fruit is cut off, let the Plant be ſet in a warm Bed, and from Time to Time watered; this muſt be done more moderately at firſt, and more largely afterwards; and by this Means of Warmth and Moiſture there will be a Certainty of Succeſs.

This Week lay ſome Branches of the ſeveral Kinds of Paſſion-Flowers, and of the more delicate Jaſmines. The beſt Shoots to lay are thoſe of the freſheſt Growth, and a good Joint ſhould always be buried in the Mould. The Aſſiſtance of a Hot-Bed is needful to ſome of the tenderer Kinds; and all muſt have the Advantage of very mellow and fine Mould, and muſt be often watered.

SECT. II.

The Management of the NURSERY, for this Week.

THIS Week it will be very proper to bud Plums and Pears. Too much Care cannot be taken in the Choice of the Stocks for this Purpoſe; for on theſe, Vigour of the Trees, and Goodneſs of the Fruit, will in a great Meaſure depend.

The common Practice for Plums is to bud the good Kinds upon the Suckers taken from the Roots of other ſtrong Sorts; but the beſt Way is to raiſe the Stocks by Sowing: and there is no Kind ſo proper as the green Gauge, which is excellent in itſelf, and hardy enough to have all the neceſſary Qualities for other good Kinds.

In Regard of Pears, the Kind intended to be budded ſhould give the Rule for the Stock. The Quince Stock agrees very well with Pears, and ſhould be choſen for thoſe Trees intended for Dwarfs or Eſpaliers, and for thoſe Kinds which are melting. On the contrary, for the breaking Pears, the beſt Stock is ſome Pear of the melting Kind. The Method differs in nothing from that of other Kinds which we have delivered already.

This Week alſo the later Peaches and Nectarines may very properly be budded.

It will be Time now alſo to look over thoſe which were budded firſt: it will be eaſy to ſee which are likely to ſucceed; and it will be proper to looſen the Bandages a little, to give free Courſe to the Sap.

This done, let the whole Ground be cleared from Weeds, and the young Plantations watered.

The Seedlings not yet removed out of their firſt Beds will require the greateſt Care. Beſide Weeding and Watering, they will more and more need ſhading from the extreme Heat of the Sun.

When every thing is thus put in Order reſpecting the young Plantation, let the Gardener go round the Ground where thoſe ſtand that are of a more advanced Growth, and with his Knife reduce them to Order.

Where there are Shoots too near the Bottom in thoſe Trees intended for forming good Heads, they muſt be carefully taken off. All the Efforts of Nature are intended for the upper Part in theſe Kinds; and the Branches formed below, which are of no Uſe, will be of great Miſchief, by draining the Juices and robbing the Head.

Evergreens, which are training to Form, will require the ſame Care and Management. We have got over the falſe Taſte, which cut theſe into ſhaggy Giants, or immoveable Weathercocks; but ſtill there is ſome Training neceſſary, for whatever Purpoſe they are required. Theſe, like the other Trees, will puſh out Shoots in wrong Places; and ſome of thoſe intended to ſtand will be too long: the one Kind muſt be cut away, the others ſhortened; and this is a very proper Seaſon.

SECT. III.

POMONA, or the FRUIT-GARDEN.

ALL Kinds of Inſects which are deſtructive among Fruit-Trees, are now abundant upon and about them, and nothing but the moſt aſſiduous Care of the Gardener can prevent their Miſchief: a little Neglect will ſhew him that he has dug and dung'd, and prun'd and nail'd, for theſe, more than his Maſter.

Every one knows that Vials of Syrup are to be hung at this Seaſon upon the Trees; but theſe are only Baits for Flies and Waſps, which would attack the Fruit: the Caterpillar which preys upon the Leaves is often a more terrible Enemy.

We have explained the eſſential Uſe of Leaves about Fruit; and he whoſe Negligence in looking after the Caterpillars, leaves them open to the Miſchief, will be very ſenſible of the Truth of that Doctrine.

The moſt promiſing will fade and wither upon this Deſtruction of the Leaves; and thoſe from which there was moſt Expectation will never ripen.

The careful Gardener muſt look well for them; he will find them ſingly wrapt up in the Extremity of a young Branch, or upon the young Fruit, where there is a Covering of Leaves. The moſt miſchievous are the ſingle green Kind; they are ſmall, but they devour immoderately.

When they are ſituated at the End of a Branch, the Juices are diſturbed in their Courſe, and there appears a round Lump in the Place. This diſcovers them to an attentive Eye; but if let alone a very little Time, they eat off the Part where they are thus concealed: and this not only hurts the preſent Fruit, but deſtroys the Branch for the ſucceeding Year.

When they fix themſelves upon the Fruit it generally decays; and often falls off. Thoſe which are but ſlightly gnawn by them, and remain, never ripen well, nor have a good Flavour.

The only Security againſt this Miſchief, is the ſeeking for Caterpillars with a diligent Eye, and picking them out, and deſtroying them. This ſhould be at Times done from the Beginning of Spring. They infeſt the young Fruit when in Cluſters, before the Gardener has thin'd it, and deſtroy vaſt Quantities together; and often they begin even with the Bloſſoms.

From the firſt budding of the Tree to the ripening of the Fruit, they ſhould be ſought after: at firſt upon the Ends of the young Shoots, afterwards upon and among the Bloſſoms, which they often faſten together by a kind of Web; and at laſt among the Fruit, or upon the Backs of the Leaves. They are the Occaſion of that falling off the Fruit which is often attributed to Blights; and he who from time to time ſeeks after them, will never repent the Trouble.

The other Method of decoying the winged Inſects into Vials of Sugar and Water, muſt be alſo begun in Time; for after the Fruit is ripe its Smell is more inviting than the other, and they will neglect the Bait to do the Miſchief.

The Article of buding which we have recommended in the Nurſery, may now be very advantageouſly practiſed alſo in the Garden.

When the Fruit Trees againſt the Walls are not of the deſired Kind, they ſhould be this Week budded upon the tender Shoots.

The beſt Method is to put ſeveral Buds of the Kind intended to be propagated, into each Tree, and there will ſoon be Wood enough to cover the Walls.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

LET the Ground where thoſe Crops have ſtood, which are now gathered off, be perfectly cleared and prepared for ſuch others as are fit for tranſplanting: and always let a few Days be allowed between the clearing off the Remains of an old Crop, and planting a new one.

The earlier Cauliflowers will by this Time be all gathered. Let the Ground be cleared of their Stalks, and all other Foulneſs; and a ſmall Quantity of Dung from an old Melon Bed be ſcattered over it.

Let this be dug in; turn up the Earth a full Spade Depth the beginning of this Week; and toward the latter End level it, draw Lines, and plant in it ſome of the Celeri which we directed to be ſown two Months ago.

The Plants will have been now about a Month out of the Ground; and this Earth thus recruited, will anſwer extreamly well for their Nouriſhment.

Let the Lines be drawn upon the Bed at four Inches Diſtance; and when the young Plants are ſet, let them have a good Watering; and let this be repeated every Afternoon till they are very well rooted.

In the taking up theſe Plants out of the Seed-bed, they ſhould not be drawn entirely from any one Part, but the largeſt taken up wherever they appear: this will thin the Remainder, and they will gather Strength, and be fit for planting out.

The Seed-bed in which theſe are left, muſt be watered from time to time, as well as the new Plantation; and it may be proper by two more Plantations from it at ten Days Diſtance each, to ſecure two more ſucceſſive Crops: this repeated Plantation of Celeri is very proper, becauſe it ſoon is paſt its Excellence when arrived at the Time of Gathering; and thus no one Plantation is long depended upon.

This Seed Crop of the Celeri is from one of the later Sowings; thoſe which have riſen from earlier planted Seed, have been now, according to our Directions, planted out ſome Weeks, and are in a Condition for removing out again for blanching.

Let another Part of the Cauliflower Ground, or ſome other Piece cleared from a former Crop, be ſelected for this Purpoſe; and with this Choice, that as the Seaſon is now likely to be dry, the beſt Soil is one which has ſome Moiſture; whereas when it is a more advanced Time, a dry Part of the Ground is beſt.

The Celeri which is planted out at this Time for blanching, will get twice the Height in the tender Part in a damp, that it can in a dry Soil; and will be more delicate.

July.

To prepare for the blanching, let the Ground be managed in this Manner:

When the Surface is level, and the Mould in order, open a Trench a Spades Breadth: dig it by Line; throw up the Mould, and then break the Earth that is at the Bottom of the Trench with a Spade. Let the Mould which is thrown up in digging this Trench, be laid half on one Side, and half on the other.

Then at four Foot Diſtance open ſuch another Trench; and break the Earth at its Bottom in the ſame Manner.

Thus go on till as many Trenches are opened as will receive the Plants.

Take them up from the Bed into which they were tranſplanted from the Seed-bed, and in which they have now ſtood to gain a good Bigneſs: place them in a ſtrait Line, in the Middle of the Trench, at a Foot Diſtance; and in this due Care is to be uſed that none of the Plants fail, nor receive any great Check in their Growth.

The Roots muſt be trim'd before they are planted; and the Tops of the Leaves cut off afterwards; the Earth muſt be carefully cloſed about them; and they muſt have a good Watering. This muſt be repeated as the Seaſon requires, till it is ſeen that they are very well rooted, and have taken to growing.

All that will then be needful is to keep them covered as they riſe in Height; and for this Purpoſe the Mould thrown out of the Trench is to be uſed as long as it will ſerve; and after that the Ground between the Trenches is to be broke very fine, and uſed to the ſame Purpoſe. The oftener they are earthed up the higher they will grow good.

July.

The Method of doing it is to draw up the Mould carefully on both Sides, taking a great deal of Care not to bury the Hearts of the Plants, becauſe that would ſtop their Growth.

By the Beginning of *September* the firſt Plants will be fit to take up; and with this Management they will be two Foot long in the blanched Part, and all the Way delicate and tender.

The reſt of the Crops are to be treated in the ſame Manner; only that a Soil drier in its Nature, or made ſo by Art, muſt be choſen for them, as they are to ſtand through the Winter. This we have given before; and ſhall occaſionally refer to when we come to treat of the Management of thoſe later Crops.

The whole Ground will now require frequent Weedings; and many of the Crops will demand the Refreſhment of Watering from time to time, in proportion as Nature allows fewer Showers.

A great deal of Advantage will alſo be obtained by a proper Manner of gathering the Products: in thoſe which are taken up entire, whether Roots or Herbs, a careful Gardener will draw the largeſt firſt; thinning his Beds, that the ſmaller may have the due Advantage of coming to their Growth: in thoſe whoſe Fruits only are gathered as the Bean and Pea Kind, he will pull them often; and ſuffer none to grow too large, for ſuch ſtarve all the reſt.

E D E N:

A

Compleat Body of Gardening.

NUMBER XLIV.

For the Middle of *JULY.*

SECTION I.

FLORA, or the Pleaſure-Garden.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. SILVER AND GOLD DAFFODIL.

July.

Pl. 44. Fig. 1.

THE Gardener has been told on ſeveral Occaſions, that great Part of the Variety of Daffodils he ſo much admires, are ſeminal Changes from ſome common Species; not diſtinct Kinds. This is one of them: its Aſpect is equally ſingular and elegant; but with all the Variation of Shape and Colour in the Flower, the Eye of the attentive Botaniſt, will ſee it is nothing more than the common wild Daffodil in an improved and varied State, as Plants are changed by Culture.

The Writers on Flowers in general have named it: they call it, *Narciſſus griſeus calyce flavo,* and *Narciſſus maximus griſeus calyce flavo:* the great grey Daffodil with a yellow Cup.

Linnæus, who allows neither Difference of Colour, or Fullneſs of Petals, to conſtitute ſpecifick Diſtinctions, refers this to the common wild *Engliſh* Daffodil; and that Species he names *Narciſſus ſpatha uniflora nectarii limbo campanulato erecto petalo equali:* one flowered Narciſſus with the Verge of the Nectarium, bell-ſhaped, ſtrait, and equal to the Petals. This Name is given to the ſingle State of the Plant, in this double Flower thoſe Characters are in great part obliterated.

The Root is roundiſh, compoſed of numerous Coats, and full of a viſcid Juice.

July.

The Leaves are numerous, long, narrow, obtuſe, and of a pale blueiſh or greyiſh green.

The Stalk is upright, a Foot high, ſomewhat flatted, edged and hollow, and it bends at the Top with the Weight of one Flower. This burſts from an oblong leafy Scabbard, and is compoſed of ſix Petals, and a very long double and large Cup.

The Petals are of a very delicate ſhining ſilvery grey, and the Cup yellow. This is the natural Colouring; but ſometimes the yellow runs in light Variegations among the grey, and often the grey in the ſame Manner ſpreads itſelf among the yellow: either way the Colouring is extreamly ſingular as well as pretty.

The Cup which is very large, is doubled and divided alſo in various Manners; ſometimes the Body is entire, and ſometimes the whole is cut and divided down to the Bottom. In either Caſe the Flower is very beautiful: nor is it a ſlight Value it gains additionally, by the late Time of its flowering.

In this double State the Characters which ſhould mark the Claſs and Place of the Plant are obliterated; but in the ſingle one, as in the other Daffodils, there are ſix Filaments and a ſingle Style, ſo that the Plant is referred to the *Hexandria Monogynia.*

Culture of this DAFFODIL.

This riſes from the Seeds of ſome of thoſe large ſingle Daffodils, which we have obſerved before are the original Produce of the common wild *Engliſh* Kind. They are to be ſown as we have directed treating of the others; and if this grey and yellow Flower do not appear among thoſe of one ſowing, it muſt be ſought in ſuch as follow. The great Art to obtain theſe double and variegated Flowers is to ſow often, and largely.

When a Plant of it is once obtained, it will be encreaſed by Off-ſets. Theſe muſt be taken off every Year when the Roots are taken up; and new Compoſt muſt be always allowed. The old Root will by this be kept vigorous, and will flower in its full Beauty many Years; and the Off-ſets, as they will be too ſmall to blow at firſt, muſt be planted in a Nurſery-bed at four Inches Diſtance to gather Strength, and afterwards removed into the Garden.

2. SUSIAN IRIS.

Pl. 44. Fig. 2. We have had Occaſion to name many of the *Iris*'s, and ſhall deſcribe yet ſome others; for there are few Flowers raiſed ſo eaſily that deſerve ſo much of the Gardeners Attention.

Among the whole Series of Flowers of that Name, there is not one that demands his Attention more than this *Suſian* Kind; ſo called, becauſe of eaſtern Origin, yet freely living in our Gardens. All the Writers on Flowers have named it, and moſt have diſtinguiſhed it, according to the Place whence it was firſt brought, by the Names *Iris Turcica*, *Iris Calcedonica*, and *Iris Suſiana*; the *Turkiſh*, *Chalcedonian*, or *Suſian Iris:* ſome have added to this the Form, Size, or Colour of the Flower. CLUSIUS, *flore majore variegato*, with a great variegated Flower; and C. BAUHINE, *flore maximo ex albo nigricante:* Suſian Iris, with a vaſt black and white Flower.

LINNÆUS in this, as other Inſtances, has named it from the eſſential Characters, and conſequently adapted to it Terms which cannot be applied to any other: 'tis the great Glory of this Author, that his Names are ſuccinct Deſcriptions; and he who knows them, cannot but at ſight know alſo the Plants to which they refer: he calls this *Iris corollis barbatis caule foliis longiore uniforo:* the ſingle flower'd bearded Iris, with the Stalk longer than the Leaves.

The Root is tuberous, thick, irregular, and juicy: the Leaves are long, moderately broad, and of a freſh green. They riſe ſix or eight together, and ſurround one another at the Baſe: they are ſharp at the Points and Edges, and of a tolerably firm Subſtance.

The Stalk is a Foot and half high, round, thick, jointed, and of a pale green; and it ſupports a ſingle Flower, the largeſt of all the Iris Kind; and when nearly viewed one of the moſt elegant. It is compoſed as thoſe of the other Iris's, of ſix Petals; among which appear the three leafy Heads of the Style, ſo much reſembling three others, that the Flower has been uſually underſtood to be compoſed of nine.

Of the ſix proper Petals three turn down and three ſtand upward.

The three lower Petals are on their Inſide abſolutely black, only there run ſome violet purple Lines along theſe from the Baſe to the Middle; and ſpread themſelves, though leſs diſtinctly, through the reſt.

The Middle of the Petal toward the Baſe is black and hairy; and in the Centre there is a delicate jetty Spot, of a Velvet Appearance.

The Outſide of theſe Petals is of the ſame blackiſh Hue, but fainter: often tinged with a duſky purple, and often degenerating into an aſh grey.

The three Petals which ſtand upright are waved, and curled; and they are vaſtly large, but thin. They are of a duſky Lead Colour, variegated from the Baſe to the Tops and Edges, with fine ſmall Lines of black and greyiſh; and there are uſually intermixed among them ſome ſmall duſky Spots.

The three falſe Petals, or leafy Heads of the Style, are divided at their Tops; and are of a faint, though deep purpliſh Tinge, with a great deal of the ſame blackiſh Hue.

The whole Flower at a Diſtance reſembles the Feathers of ſome *Indian* Birds, or the Skins of Serpents; for the upper Petals are mere Films.

The Flower has no Scent: Nature has done enough for it in Colouring.

The Filaments and Style are the ſame in this as in the other Iris's; three of the firſt place it among the *Triandria* of LINNÆUS; and the latter being ſingle, among the *Monogynia*.

Culture of this IRIS.

The Plant is a Native of the Eaſt, whence it was firſt brought into *Europe* by the *Dutch* in the Year 1573. It is eaſily encreaſed by parting the Roots in Autumn, but the beſt Method of raiſing it is from Seed: for the Flowers of ſuch Plants, when rightly managed, exceed thoſe from older Roots; and though they never vary their general Colouring, yet will afford a very pleaſing Diverſity in the Diſpoſition, Form, and Bigneſs of the Spots.

The beſt Compoſt is a Mixture of equal Parts, Garden Mould, and rich black Earth from under the Turf in a Meadow. In this, with proper Management, the Plants will flower in full Perfection.

Let ſome Seeds be ſaved from a very ſtrong Plant, which has ſtood under a warm Wall. Let them be dried in the uſual Manner; and let a Bed be prepared in a ſheltered Part of the Seminary, with the Compoſt juſt directed. The Spot muſt be open to the Morning Sun, and defended from Noon.

On this Bed let the Seeds be ſcattered with an even Hand, in the latter End of *Auguſt*, and covered with a Quarter of an Inch of the ſame Mould. When the young Plants appear, they muſt be weeded and gently watered; and in the End of *September* they ſhould be taken up, and planted in another Bed at eight Inches Diſtance.

Here they may ſtand till the *September* following, and then it will be Time to remove them into the Flower Garden, for they will flower the next Year.

A Place muſt be choſen for them under a warm Wall, open to the Eaſt, and ſheltered from the Noon Sun.

A Bed muſt be made for them in this Place, and they muſt be planted at eighteen Inches Diſtance. They muſt be carefully weeded and watered, and the ſucceeding Summer they will flower.

Let the fineſt be marked while in bloom; and in the *September* following let the Roots be all taken up, and a new Compoſt thrown into the Place. The inferior Kinds may be planted out in the Borders of the Garden; and theſe finer Kinds kept together, in their former Place, tho' in a new Soil.

When they have been in this Manner nurſed two or three Years, they may be increaſed by parting the Roots when taken up in Autumn for renewing the Soil; and at the ſame Time Seeds ſhould be ſaved from one or more of the very fineſt Flowers; and a new Stock raiſed.

The old Plants are then to be removed into the common Borders, as ſoon as the new Seedlings come to the State of perfect flowering; but the ſame Place preſerved for the choicer Kinds.

There is no great Trouble in the Management of ſeedling Plants to thoſe who raiſe great Numbers, and there is no other Way to attain Perfection in the ſeveral Flowers.

The worſt of theſe Plants will be a very great Ornament in the Borders; and ſo much Attention muſt be ſhewn to the Warmth of the native Climate of the Plant, even in theſe, that they muſt have a warm and ſheltered Place, though in the common Mould: otherwiſe they will either become very weak, or abſolutely periſh.

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3. SINGLE GOLDEN AMARYLLIS.

Pl. 44. Fig. 3.

If the Figure on the annexed Plate did not remind the Gardener of the intended Plant, he would not conceive that by golden Amaryllis we mean the *autumnal Daffodil* of his Nomenclator. 'Tis by that Name he knows the Plant; but there never was one more given at random.

He knows the eſſential Character of a Daffodil is a hollow Nectarium; or in his own Language, a Cup within the Flower, but he will find none here; nor is it eaſy to conceive by what Infatuation they were led who firſt gave it the Name *Narciſſus*. By this, however, it is called among the Generality of Writers. They add to it *autumnalis*, from the Time of the Plants flowering; and from its native Country, *Indicus*. C. Bauhine adopting both, calls it, *Narciſſus indicus autumnalis*; and by theſe Names it ſtands in Clusius and others.

Some finding the Impropriety of this Name, have refer'd it to the *Colchicums*, which indeed it more reſembles, and ſome have called it *Pancratium*; but not in the preſent adopted Senſe of this Word.

Such was the Confuſion under which the Science of Botany laboured till the Time of Linnæus. He found the bulbous Plants, more than all the reſt, confounded among one another, ill joined, and ill ſeparated; and each Way called by the moſt diſcordant Names. He ſet theſe aſide; and examining Nature and her Characters alone, to his everlaſting Honour, eſtabliſhed many new Genera, and of theſe the Amaryllis is one.

The Gardener, accuſtomed to common Names, and falſe Diſtinctions, will be aſtoniſhed to read that he has brought together under this one Name, the *autumnal Daffodil*; the *Atamuſca*, *Guernſea*, and *Jacobæan Lilly*; the Ceylon *Lilionarciſſus* of Commeline, and Hermans Dwarf *African Lilly*; the oriental *Narciſſus* of Swertsius, and the ſpotted Lilly of Plukenet. Let him look into theſe Flowers, and he will find that it is done with Juſtice: his Eye will ſhew him that howſoever theſe Names have been given the Plants by ignorant, and continued to them by unſkilful Perſons, there is not a Lilly nor a Daffodil among them.

He will ſee they all differ from the Flowers properly called by thoſe Names; and that they all agree with one another: then ſhaking off old Prejudices, he will perceive his Obligation to that Author, who joined them under one Name; and will not be offended, as there was no old Denomination which ſuited them, that he gave the Genus a new one.

He has diſtinguiſhed the preſent Species by the Addition of *Spatha uniflora corolla equali ſtaminibus declinatis*: ſingle flowered Amaryllis, with a regular Flower, and drooping Filaments.

The Root is large, bulbous, and covered with a thick blackiſh Skin.

The Leaves are long, moderately broad, obtuſe, firm, and of a deep green. Eight or ten of them riſe together from the Root, and with them a ſhort thick Stalk ſupporting a ſingle Flower.

The Stalk is green and ſmooth; and the

July.

Flower large, elegant, and of a pale yellow.

There is no Cup; but in the Place of one a kind of filmy Scabbard: this is oblong, flatted, nip'd at the End, and of a pale green. It burſts ſideways to let out the Flower, and ſoon after withers.

The Flower is compoſed of ſix oblong, regular Petals, broadeſt in the Middle, and obtuſe.

In the Centre ſtand ſix Filaments, ſmall toward the Top, and crowned with oblong Buttons placed ſideways. Underneath the Receptacle of the Flower is placed a roundiſh furrowed Rudiment, from which riſes a ſingle Style with a ſmall Head, divided into three Parts.

The Seed-veſſel is oval, and in three Cells contains numerous Seeds.

The ſix Filaments refer the Plant to the *Hexandria* of LINNÆUS, and the ſingle Style ſhews it one of the *Monogynia*.

Culture of the GOLDEN AMARYLLIS.

This elegant Flower has the Merit of Hardyneſs: moſt of the Amaryllis Kind are Natives of the hotteſt Regions, but this burſts forth among the Graſs in the Meadows of *Spain* and *Italy*, and covers the Sides of Hills in *Thrace*. It will live therefore in our Gardens with little Trouble; and as it encreaſes faſt and freely by Off-ſets, few give themſelves any farther Trouble about it. They ſeparate theſe when they take up the Roots; and they plant them in any Border where there is a Vacancy.

Our Gardener knows he is to act on other Principles.

Let him mark for Seed two or three of the fineſt Plants, which have the Advantage of Shelter; and ſee that it ripens perfectly, for very often that is not the Caſe; and he will be very unlucky who loſes all his Pains of ſowing and protecting, by the firſt Error, in taking bad Seeds.

July.

In the latter End of *March* let a Bed be made up in a ſhady Part of the Nurſery, with freſh Meadow Earth raked clean from Stones; and on this let the Seeds be ſcattered with an even Hand. Sift over them a Quarter of an Inch of the ſame Mould, and let the Ground be defended by a Hawthorn Buſh; and at Times gently refreſhed with Water.

When the Leaves of the young Plants fade, let half an Inch of freſh Mould be ſifted over the Bed to preſerve the Roots during Winter; for otherwiſe being ſmall, and too near the Surface, they would be hurt by Froſts. The next Seaſon they will be fit to tranſplant at five Inches Diſtance; and when they have once flowered in this Place, the fineſt muſt be marked again for Seed.

There will be a great deal of Variation in the Colour of the Flower, and its Size, among theſe ſeedling Plants. The fineſt are thoſe which are largeſt, and are of a delicate, pure, and unmix'd yellow; pale, but ſtrong, and uniform throughout every Part of the Flower. This is the Colour of pure Virgin Gold, and thence the Plant is named.

When fine Plants are thus obtained, they may be encreaſed by Off-ſets, and the worſt of them will make a very handſome Figure in Borders.

The leſſer early flowering Kind differs no more from this than as a Variety from the ſame Stock; and the Caſe is the ſame with the next deſcribed Kind.

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4. DOUBLE GOLDEN AMARYLLIS.

Pl. 44. Fig. 4.

The Gardener has been often enough reminded of that firſt botanical Leſſon in his Way, that double Flowers are not diſtinct Species, to know this is no more than a Variety from the Seed of the Plant laſt deſcribed: yet he will find enough in it ſingular and pleaſing.

In moſt double Flowers the Parts of Impregnation are obliterated, but in this they are extreamly diſtinct; and the Flower, tho' doubled, retains the ſame Shape it had when ſingle.

The Writers on Plants have named it with great Praiſe; they call the double autumnal Daffodil, *Narciſſus autumnalis flore pleno*, and *Narciſſus autumnalis plenus aureus*.—LINNÆUS conſidering theſe Accidents from Culture as too trivial for peculiar Names, refers it to the other.

The Root is larger than in that Kind, and has more and thicker Fibres.

The Leaves are five or ſix; they are broad, not very long, obtuſe, fleſhy, and of a very fine deep green.

The Stalk is round, thick, and three Inches high. At its Top ſtands one large Flower elegantly doubled, and ſpread open.

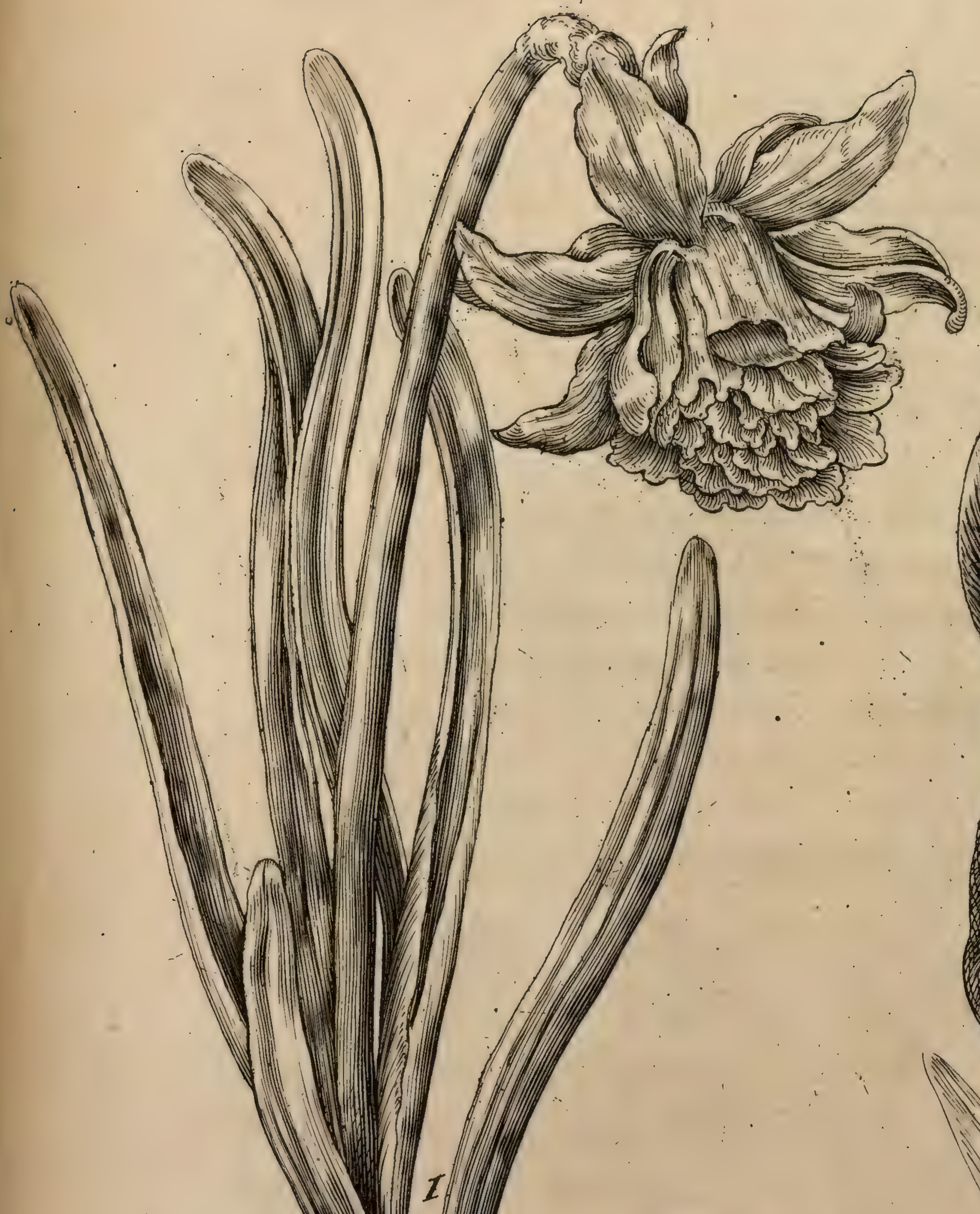
The Colour is the ſame gold yellow with the other; and the Petals are of the ſame Form, but double or more than double in Number.

The Flower from this Addition of Number makes a very noble Appearance; and as Nature is rarely attentive to the ripening of Seeds from it, tho' the Parts of Impregnation are ſufficiently large, it remains much longer than the ſingle Kind in Beauty.

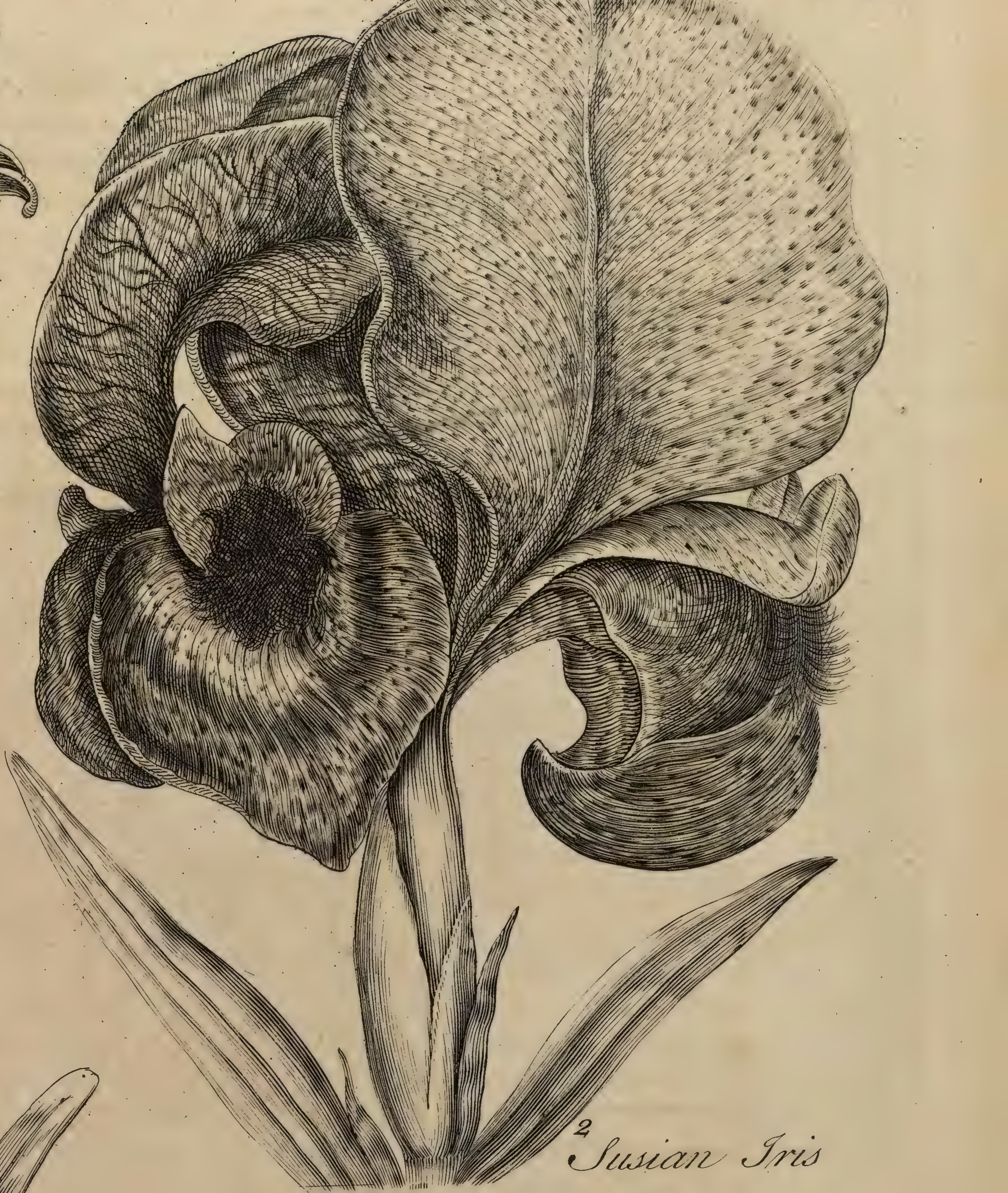
Culture of this AMARYLLIS.

The ſame Soil ſuits this as the former ſingle Kind; and no new Directions need be given for raiſing it. From a Quantity of Seed well managed at the ſecond, if not at the firſt Sowing, there will be produced one or more of theſe double Flowers; which muſt afterwards be nurſed with Care, and encreaſed by their Off-ſets.

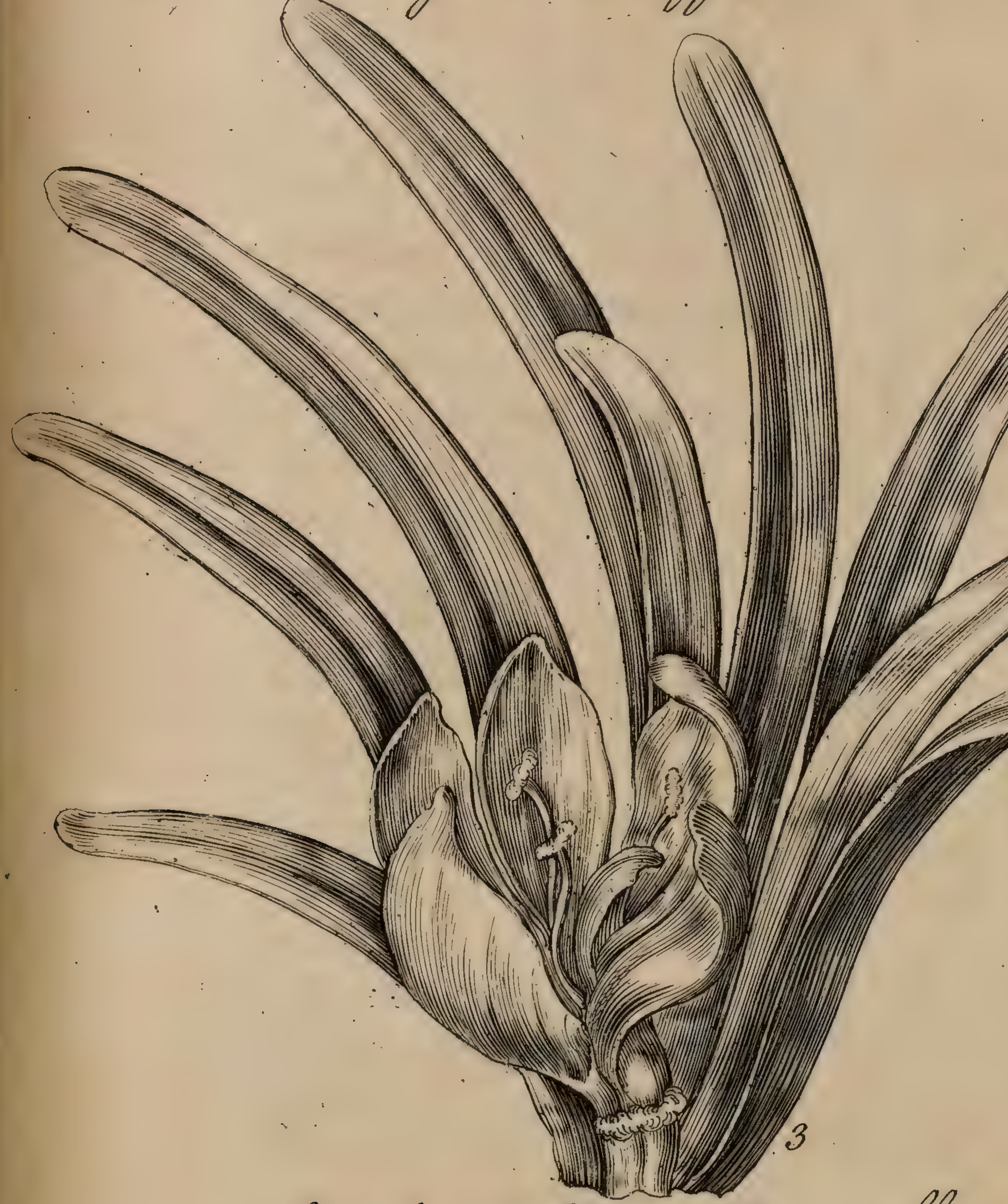
For theſe a good Bed ſhould be provided in the



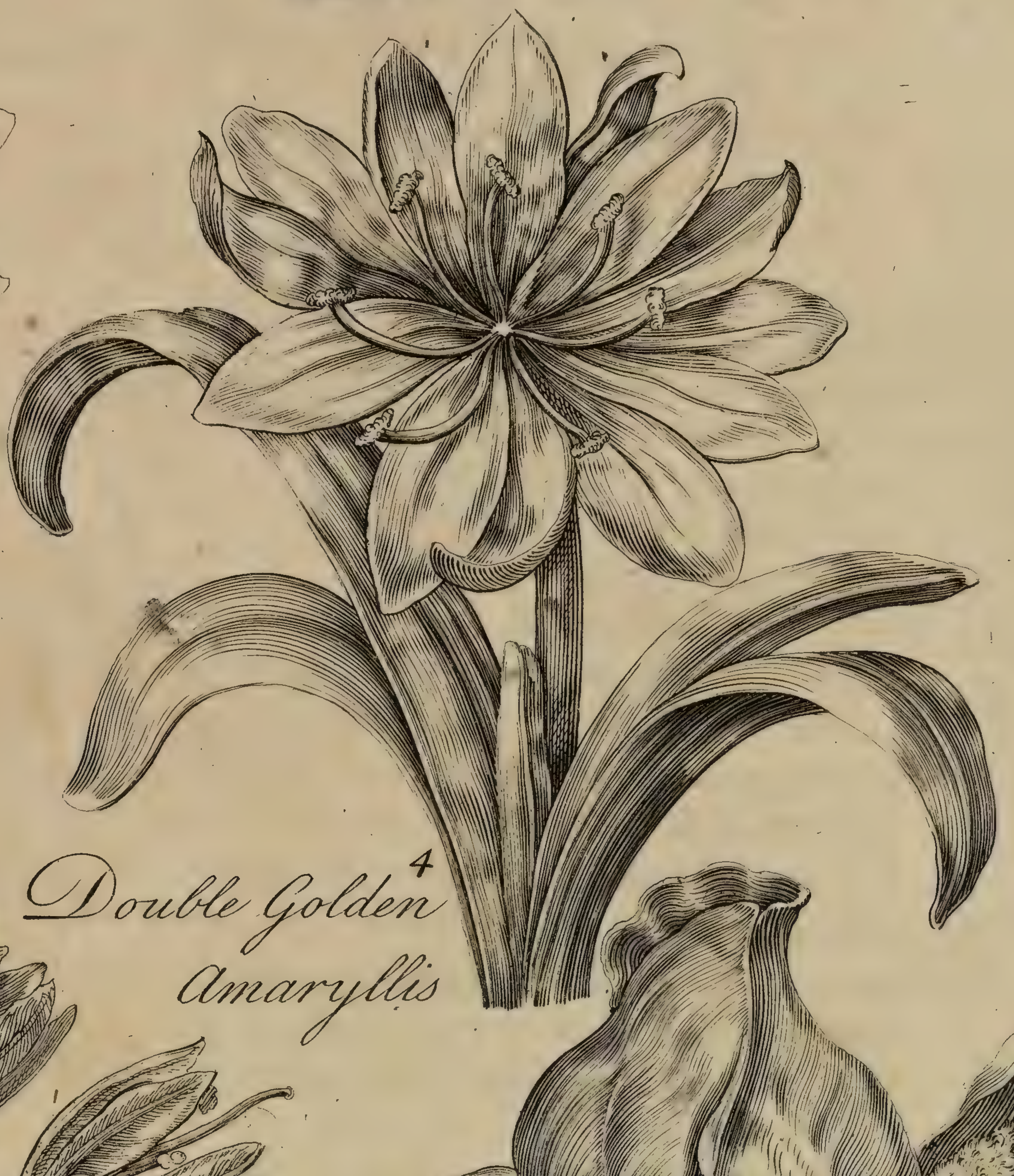
1 *Silver and Gold Daffodill*



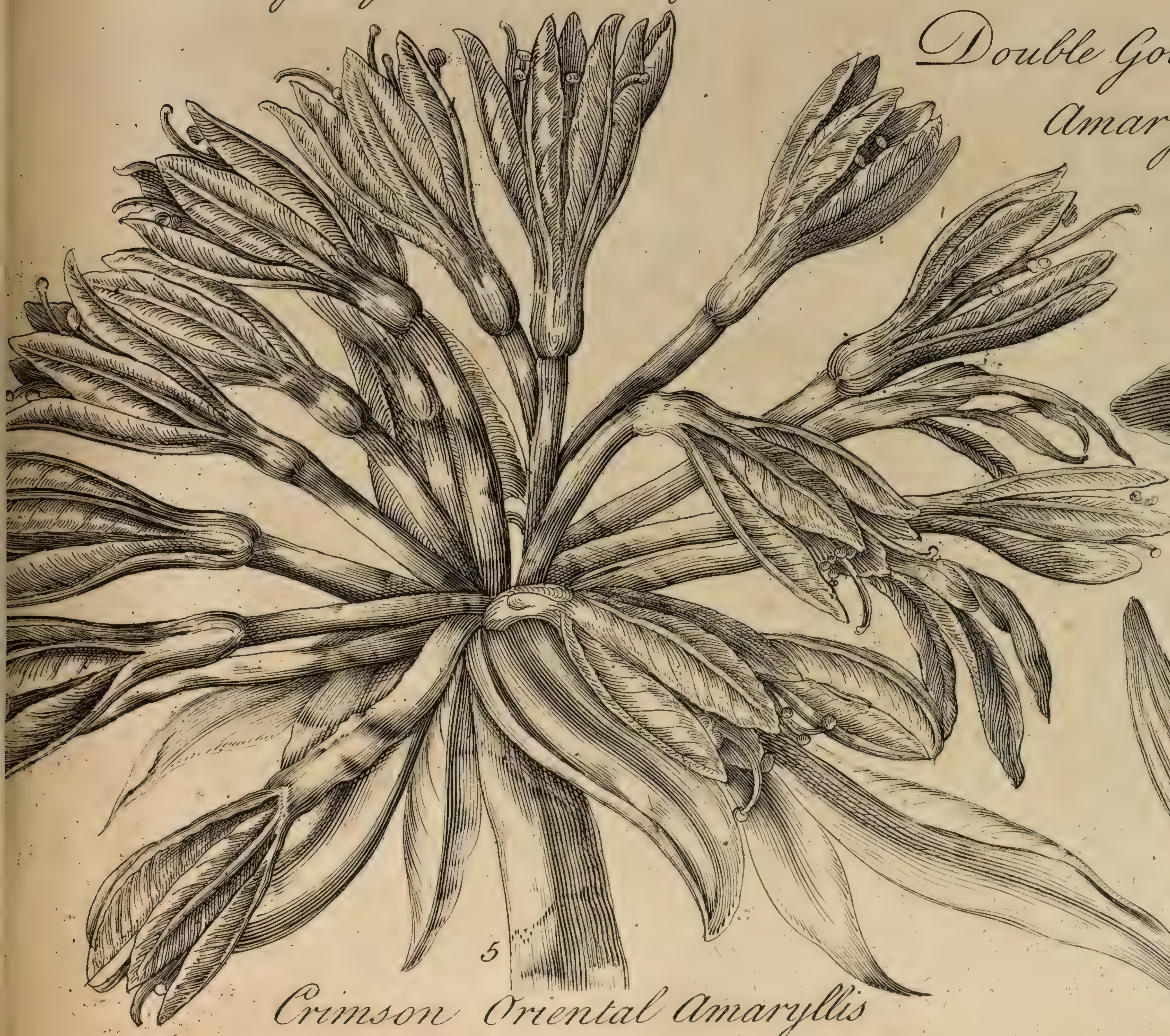
2 *Susian Iris*



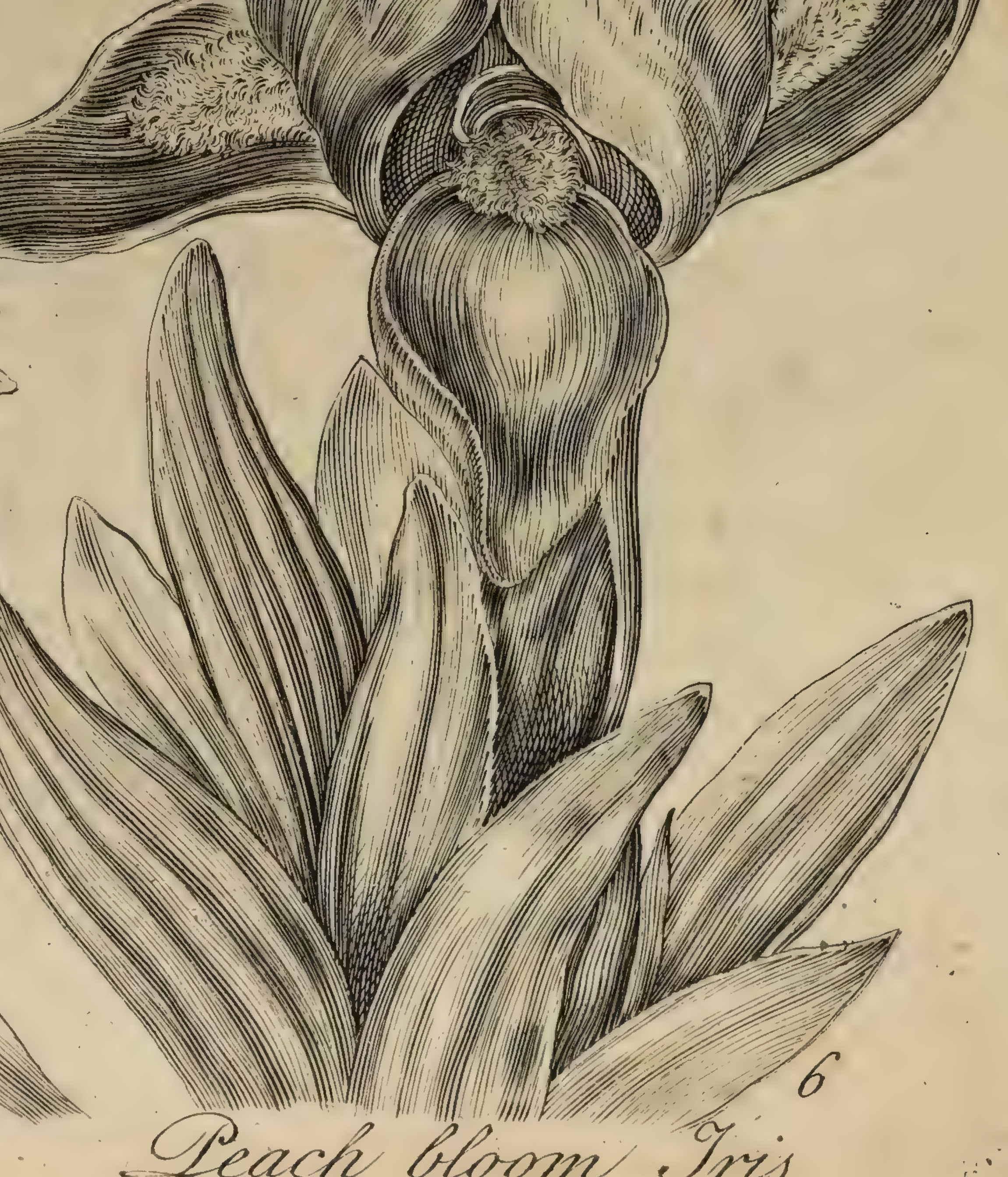
3 *Single Golden Amaryllis*



4 *Double Golden Amaryllis*



5 *Crimson Oriental Amaryllis*



6 *Peach bloom Iris.*

July. Seminary. They ſhould be ſeparated, if ever ſo ſmall, every Time the old Root is taken up; not only for the Sake of encreaſing their Number, but to keep that Root in the full Glory of its Flowering.

They muſt be planted at ſix Inches Diſtance in the Nurſery Bed, and there weeded and occaſionally watered; and, when the Leaves fade, covered with freſh Mould, to ſhelter them during Winter. Thus they will ſoon arrive at Perfection, and will flower as well as the Parent Root. July.

We have adviſed repeated Sowings of the common Kinds; and were there no other Reaſon, it would be proper to obſerve that Method punctually, for the Sake of obtaining from Time to Time a Succeſſion of theſe double Flowers; for I have found that in Spite of all the Care that can be taken of the Roots, they loſe their Strength after a Number of Years, and flower more faintly.

5. CRIMSON ORIENTAL AMARYLLIS.

Pl. 44. Fig. 5. The Reader has ſeen with how much Juſtice LINNÆUS ranges together ſeveral elegant Plants under the Name *Amaryllis:* this, for its Singularity and Beauty, may claim the Preference againſt moſt of them; and perhaps yields to none.

The Botaniſt would wonder to ſee this Species called by the common Writers a *Narciſſus*, had we not juſt ſhewn the *golden Amaryllis* under the ſame Denomination: he will perceive the Flowers of this, though perfectly unlike thoſe of all the Daffodils, are altogether like thoſe of that elegant low Plant, except in Colour; though widely diſtant in their Manner of Growth; and he will as readily applaud LINNÆUS, who joined them under this Name, as he will cenſure thoſe who could confound them with the Daffodils. They only who firſt ſaw the Plant were guilty of this Error: thoſe who followed named it *Lilio-narciſſus.*

SWERTSIUS called it *Narciſſus Indicus Orientalis*; and FERRARIUS, *Narciſſus Indicus ſphericus, flore liliaceo:* the round-headed Daffodil, with liliaceous Flowers.

MORISON calls it *Lilio-narciſſus Indicus maximus ſphericus, floribus plurimis rubris liliaceis.*

LINNÆUS, who has rightly joined it with the *Amaryllis*, adds, as the Diſtinction of the Species, *ſpatha multiflora, corollis inæqualibus, foliis linguiformibus:* Many-flowered *Amaryllis*, with Tongue-like Leaves and irregular Flowers.

The Root is very large, round, ſwelled out in the Middle, covered with a thick Skin of a brown Colour; and ſends from the Baſe numerous very thick and long Fibres.

The Leaves are oblong, broad, obtuſe, and of a freſh green with a Tinge of greyiſh.

The Scabbard which contains the Flowers burſts from the Ground entire; very large, oblong, pointed, and tinged ſtrongly with Scarlet, or with Purple.

As this raiſes itſelf above the Ground, the Stalk appears, and by Degrees attains the Height of fourteen Inches: it is flatted, very thick, and of a lively green; more or leſs coloured with that elegant Red which was at firſt ſo conſpicuous upon the Covering of the Flowers.

Before the Stalk has attained half its Height, the Scabbard burſts; and the Flowers appear in their large Buds cloſe compacted into a Kind of Conic Head. Soon after the Covering has burſt, they begin to ſeparate; and at length form a vaſt and very noble Head, nearly of a ſpherical Form: ſome continue erect, or nearly ſo, while others throw themſelves off obliquely, and ſome hang downwards. Theſe all riſe together from the Head of the Stalk, where there are alſo placed ſome rediſh Films.

Every Flower has its Footſtalk, and theſe are three Inches long, flatted in the Manner of the main Stem, and tinged like that with a lively Red.

The Flowers themſelves are large, and of a very delicate Red. Each is compoſed of ſix Petals; five of which naturally turn a little inward, and the ſixth ſeparating from them ſtands outward. This is what occaſions LINNÆUS to call it an irregular Flower.

In the Centre ſtand ſix Crimſon Filaments, crowned with large yellow Buttons, and ſurrounding a ſingle Style, whoſe Head is divided into three Parts.

Each Flower is ſucceeded by a large Seed-veſſel; and even theſe make no mean Appearance.

The ſix Filaments and ſingle Style refer the Plant to the *Hexandria Monogynia* of LINNÆUS, as evidently as the Form of the Flower to the *Amaryllis* Kind.

Culture of this AMARYLLIS.

This elegant and noble Species is a Native of the *Eaſt-Indies*; and with us will never flower ſo perfectly as in a Stove. The Seeds are to be obtained from its native Place of Growth for Propagation; or the Roots brought thence: for when taken up at the Time of the Leaves fading, they will bear to be brought over very well.

The Gardener in general gives himſelf leſs Trouble: Off-ſets are produced from the Root freely enough, and from theſe he propagates the Plant: we know that it will flower alſo without the Stove, but not in its Perfection; and 'tis a Plant too noble and too elegant to be impair'd by the negligent or unſkilful Hand of the Gardener.

The Method by Seeds is tedious and precarious: but if they have been collected in the *Indies*, from good Plants, and well hardened, they will keep good, and will grow in a Pot of fine Mould

July. Mould plunged in a Bark-Bed: and they muſt thence be removed into the Stove.

The Roots brought over from thence, tho' they alſo often miſcarry, are a better and ſecurer Method. When theſe are received, they muſt be carefully cleaned, and a Pot of moderate Size muſt be prepared for each of them. Two or three Pieces of looſe Gravel muſt be thrown into the Bottom of the Pot, to keep the Hole, for the Diſcharge of Water, from ſtopping up; then the Pot muſt be filled more than half with ſome of the light rich Compoſts; and the cleaned Root ſet upright, and more of the Compoſt thrown in, till it is covered three Quarters of an Inch.

In this Situation it is to remain, with now and then a very little Water, only to keep the Mould from being too dry, till it begins to ſhoot. If the Seaſon be favourable, it will do beſt all this Time in the open Air, in a warm ſheltered Place.

From the Time that it begins to ſhoot, more Water is to be allowed; but ſtill in Moderation; and as ſoon as the Weather grows cool, it muſt be removed into the Stove; and from this Time it muſt be allowed often a little Water. It will thus be brought eaſily to Flower.

After a Year or two the Root will produce Off-ſets; and theſe muſt be managed with great Care. July.

Every Year the old Root muſt be taken out of the Pot, and clean'd; and as ſoon as the Off-ſets have been taken off, it muſt be planted again in freſh Compoſt. The beſt Seaſon for this is about a Month before the ſhooting of the Leaves in Spring.

The Off-ſets ſeparated from the old Roots, muſt be managed juſt as thoſe Roots were at firſt. They muſt be planted with great Care in Pots of the ſame Compoſt, and ſet in a Hot-Bed of Bark. The Mould muſt be in theſe refreſhed occaſionally with Moiſture; and a little Air muſt be allowed in good Weather.

When they are thus brought to a Condition of Flowering, they muſt be taken into the Stove; and to keep them in perfect good Condition, they muſt be ſet in the Bark, and continued there throughout their whole Time: they will flower any where within the Air of the Stove, but their full Perfection is never ſeen, unleſs when they are in Pots up to the Rim in the Tan, and at Times watered.

The Seaſon of Flowering in this Plant, when kept in the Stove in this Manner, is quite uncertain; but on that muſt depend the Management of the Roots, and the whole Regulation.

6. PEACH-BLOOM IRIS.

Pl. 44. Fig. 6. The Dwarf *Iris's* are not the leaſt ſpecious of that Kind of Flower; nor is this inferior, in the Delicacy of Colour, to any of the plain Kinds. It is a Plant of eaſy Culture, and worth a Place in every Garden.

The Writers on Flowers in general have named it: they call it *Chamæiris purpurea*; and *Iris humilis purpurea*; and *Iris latifolia flore rubello.*

Linnæus joins it to the Violet Kind, which he diſtinguiſhes from all the others, by the Name *Iris corollis barbatis, caule foliis breviore unifloro:* Bearded *Iris*, with one Flower upon a Stalk, lower than the Leaves.

Though a low it is a very ſhewy Plant; and in this pale Colouring is very conſpicuous.

The Root is tuberous, thick, ſpreading, and whitiſh.

The Leaves are numerous, and of a very delicate green; broad, ſhort, obtuſe, and highly rib'd.

The Stalk is very ſhort, but thick, rib'd, and irregular. The Flower ſtands on its Summit, and is very large. It is compoſed, as thoſe of the other *Iris's*, of ſix Petals, and three leafy Appendages to the Style; and is of a very fine pale Crimſon.

The Petals are firm, and the whole Flower is permanent, and of a very fine Violet Scent.

Three of the ſix Petals hang more or leſs downward, and the others ſtand upright, and cloſe in upon one another.

Toward the Baſe of the lower Petals is placed a long and large bearded Nectarium; and above theſe ſtand the three long Heads of the Style, which are uſually counted by thoſe who have not ſtudy'd the Science, as ſo many other Petals.

The natural and proper Colouring of the Flower is to be throughout pale Red. The three Petals which fall downwards are the paleſt; the three which ſtand up have more Crimſon; and the three Heads of the Style are of a fainter Colour than theſe, but have the ſame Kind of Tinge.

This is the proper Colouring of the Petals, but with this there is always the Addition of the bearded Nectarium, which is thick and of a violet blue; and near it there is on each of the lower Petals a yellow Spot.

Culture varies the Colouring of the Petals greatly, but theſe Characters always remain: the whole will be changed in the Tinct from this pale Red, one Way, through all the Stages of fleſhy Bluſhing, to abſolute White; and the other through all the deepening Reds, to abſolute and full Purple: and ſometimes the upper Petals will be ſtreaked or variegated.

One Obſervation ſhews Linnæus has not erred in refering this to the more uſual Violet Kind, which is the Scent. It is always perfum'd, but moſt in the deepeſt coloured Flowers: as they grow paler the Scent is leſs; and in the White is nearly loſt.

The Characters are the ſame in this as in the *Suſian*, and other Kinds: there are three covered Filaments, and a ſingle Style with this great trifid Head. Theſe refer it to the *Triandria Monogynia* of LINNÆUS, his third Claſs and its firſt Section.

Culture of this IRIS.

The Propagation and Management of the tuberous *Iris's* is much alike; nor need we repeat here what we have directed concerning the *Suſian* and other Kinds. All that is particular relating to this, is the delicate Colouring of the Flower, which muſt be preſerved by a light Soil, and by avoiding too much Moiſture.

I have ſeen the Roots of this produce deep violet Flowers, only from being two or three Seaſons planted in common rich Garden Mould, and thoroughly watered, by an unſkilful Gardener.

The beſt Method of managing the Plant, is with the common Regulations, only to give very little Water, and to mix a Peck of dry Sand with every Buſhel of the Compoſt: in this, Seeds of the common Violet Dwarf *Iris* are to be ſown, or of ſome good Flower of this pale red Kind before raiſed from ſuch Seeds.

The Method is to ſow a large Quantity; and among the Plants which riſe, there will always be a Variety of Colouring; from theſe the paleſt are to be preſerved for Seed, and that ſown again.

When the Plants raiſed from this, are of a Bigneſs to be brought into the Garden, a Bed muſt be prepared for them in ſome Place where they may have a great deal of Sun, but not that of the full Noon-day; and the Compoſt being thus lighten'd by a Mixture of Sand, they muſt be planted at a very ſlight Depth, and the ſtirring of the Ground about them, muſt in general ſerve inſtead of Watering.

The Dews will be thus detained in the Mould, and they are the proper Refreſhment of this delicate Flower. If the Soil at any Time become ſo dry that it viſibly declines, a little Water muſt be allowed: but let the Gardener, as an everlaſting Rule, keep in Remembrance that the Delicacy of the Flower depends upon the Roots not being too coarſely nouriſhed.

CHAP. II.

The Care and Management of the Ground.

THE Borders being all clean and in Order, this Week let the Gardener continue his Care in ſaving the Seeds of Plants as they ripen: let him once in two or three Days go over the Ground, and take from every Plant thoſe Heads or Pods which are mature.

The Rule to know this, is to obſerve that the Seed-veſſels, or the Seed, if naked, are of their full Bigneſs, and are a little looſe. They are uſually firm in their Places while the Juices are flowing into them; but when Nature has done her Work, and they only ſtand to harden, they begin to grow moveable.

Let him make a Diſtinction when thoſe in Pods are gathered, between ſuch as are to be ſown in the ſucceeding Autumn, and thoſe which are to be kept till Spring.

The former Kind, after they have lain ſome Time upon the Shelf in the Pods, muſt be ſhook out, and ſpread ſeparate and naked; but thoſe which are to be preſerved through Winter, are beſt kept in the Pods.

For theſe there is moſt Attention required, for they have the longeſt Time to be kept out of the Ground; and that the moſt precarious, becauſe of the Variety of the Seaſons.

They muſt be thoroughly dry'd, and it muſt be done very gently. If they are laid in the Sun, as I have known ſome practiſe, the Principle of Vegetation will be extremely weakened or deſtroyed; and if they be put up damp they will grow mouldy, and that Way be ſpoiled. The true Method is to allow them Time enough, and Room enough.

It is a common Obſervation among Gardeners, that certain Seeds if kept till the following Spring will not grow. They are therefore directed to be ſown in Autumn, though contrary to the Nature of the Plants.

I have found by repeated Trials in theſe Kinds, that there is nothing in the Nature of theſe Seeds to prevent their being kept good through Winter, and growing in Spring, but that the Unſkilfulneſs of the Gardener has deſtroyed that Principle of Life in them, which Nature would under a better Regulation have very well preſerved.

On examining Seeds of theſe ſeveral Kinds in the Gardener's Seed-Rooms, I have ſhewn them the Marks of their having been many Times damp, and dry again, during the Courſe of the Winter. Every Time they grew damp, there came on a Fermentation: and there is no Probability that ſo tender a Thing as the firſt Bud or Rudiment of a Plant, contained in its Seed, could ſtand theſe Injuries unhurt.

This is the Cauſe of theſe Seeds failing in the common Way; and the Gardener will find it a great Advantage to underſtand certainly how to preſerve them: it depends entirely upon this hardening of them; for when once they have been thoroughly and properly cured, they will not be ſubject to Damps afterwards.

The Method is to ſpread them in the Pods at conſiderable Diſtances, one from another, upon a broad Shelf or Table covered with Cartridge-Paper, and with a rais'd Ledge of the ſame Paper carry'd all round, to prevent their blowing off. In this Place they are to lie a Fortnight, or longer, according to their Bigneſs; and every Day they are to be moved about: the Room muſt have a thorough Air; but the Pods muſt not be expoſed to the Sun.

In this Time they will acquire that Hardneſs which will preſerve them from ſlight Accidents of Damp; and to prevent this farther, they muſt not be put up in Drawers, as is the uſual Way, nor all in one large Parcel.

To preſerve Seeds in a Condition to vegetate, free Air is the great Article, and this they are deny'd in that confin'd Way of laying them up. On the contrary, let the Quantity, if large, be divided into three or four Parcels, and each tyed up in a Bag of Cartridge Paper. Let theſe Bags be hung up in the Air in the ſame Room where they were dry'd.

The beſt Way is to draw ſeveral Lines acroſs the Room, a Foot and half below the Cieling, and two Foot diſtant from one another; and the Bags being firſt written upon, to ſhew what they contain, ſhould be ty'd up to theſe Lines a Foot aſunder.

The Air will thus play freely about them and among them, and the Pods will preſerve them from Injuries: they will remain in good Condition a great while; and ſome which I have kept by way of Experiment, have been very good four Years.

There is no Way in which Seeds can be kept in every Reſpect ſo conveniently as this: beſide their being liable to Damps and to Heat, when laid in great Parcels together in Drawers, they are often eat by Inſects. In this Way they take up little Room, and they are free from all Kinds of Accidents.

Theſe are the Advantages we have found from preſerving Seeds in this Manner; which we have named at this Time, becauſe 'tis now to be put into Uſe; and we need not tell the Gardener how great the Advantage would be of being ſecure of always preſerving thoſe Seeds through Winter, which ſhoot ſoon after they are put into the Ground.

In all theſe Matters Nature is to be the great Guide; and we ſee in her Œconomy how vaſtly ſerviceable a free Air is to preſerve the vegetative Life in the Seed, and prevent Accidents.

In many Caſes, the Seeds intended for falling to the Earth in Spring, are preſerved thro' Winter in their dry'd Pods upon the dry Stalks of the Plant. The Rains wet them, but the free Air dries them again, and there is no Diſadvantage. The rough Winds of Spring blow them off, and they ſhoot. Theſe naturally droped Seeds have many Diſadvantages, to which thoſe ſown by the Gardener are not liable; but with the free Air about them all Winter, they ſucceed againſt them all.

Every Week therefore as the Seeds ripen, let the Gardener lay them upon the Shelf to dry; and where there are many Kinds, he will do well to divide every Shelf by Ledges of the ſame Paper, into ſeveral Partitions.

As one Parcel of the ſame Kind dries, let it be ty'd up ſeparately in Bags, and theſe wrote upon, and fixed in their Places: thus every thing will go on regularly; and he who beſtows this Degree of Attention on the Subject, will make few Complaints.

All the Time Seeds are thus gathered from ſuch Plants as are ripening them, let thoſe in Flower, and thoſe which are taking their Growth for Flowering, be watered with Care: thoſe in Flower a little at a Time, and often: thoſe, whoſe Growth is the principal Object of Attention at preſent, more. This we have explained under the preceding Articles in our laſt Number.

SECT. II.

The Management of the NURSERY, *for this Week.*

Nothing farther will require to be done in the open Flower Ground for the preſent Week; we ſhall therefore proceed to the Nurſery, and conſider the Management and Encreaſe of thoſe more tender Shrubs and Plants of foreign Growth, which we preſerve in Stoves and Greenhouſes.

Many of thoſe will bear to be propagated by Cuttings, and there is no Way ſo eaſy. This is the Seaſon, and the Manner muſt be varied according to the different Kinds.

The Gardener who would rationally go about this Work, muſt conſider his Exotics according to their different Degrees of Hardyneſs, as of two Kinds; the firſt comprehending ſuch as will bear our open Air the beſt, and the other the more tender.

This is a very eſſential Diſtinction; for the Temperature of Mould in our Gardens being the ſame with that of the Air, or at leaſt dependent on and regulated by that, thoſe Plants which in their State of Growth will not endure the Chillneſs of our Air, will not in the Cuttings ſend out any Roots in the cold Ground.

This throws the Management of Exotic Cuttings into two Regulations: the firſt or hardier Kinds, will ſtrike in the common Mould, provided it be good, and they have due Attendance and Shelter. The other or more tender Kinds will not ſtrike, unleſs the Mould into which they are put, be heated by Dung beneath.

The hardier Kinds therefore are to be raiſed in a Bed of good Mould, the others on a Hot-Bed. We ſhall lay down firſt the Method of treating theſe, and afterwards that of the other, in which there is little eſſential Difference.

Chuſe a Part of the Ground that is defended from cold Winds, and mark out a Bed of four Foot in Breadth; and of a Length proportioned to the Quantity of Cuttings intended to be rais'd. Dig out the Mould a Spade Depth, and fill the Place with a Mixture of equal Parts of very fine Garden Mould and freſh Meadow Earth. Mix theſe well together, and throw them into the Place. Let ſo much be uſed that the Bed may riſe three Inches above the Surface.

Draw two Lines lengthway of this Bed, each at fifteen Inches from one of the Sides; and the Bed being thus prepared, take off the Cuttings. Theſe may be all cut at once, and by good Management all planted the ſame Evening.

Let the Gardener remember that 'tis only the hardier Exoticks he is to plant in this Bed, but let him take Cuttings from as many of theſe as he chuſes to propagate, in the following Manner.

With a ſharp Knife let him cut them from the Plants at ſome Place juſt below a Knot, or Joint, ſloping them off downwards in the Cutting. The beſt Length for them is about ten Inches, but in this the Practice muſt be in ſome degree regulated by the Diſpoſition of the Joints.

Let a Slit be made in each through the Body of the Joint, and two or three Holes pierced through the Stalk above and juſt about this Place.

Let Trenches be opened in the Place where the two Lines are drawn along the Bed, of ſo much Depth as to hold the Cuttings within an Inch and half of their Tops.

Lay the Sides of the two Trenches which are toward the Edge of the Bed, gently ſloping; and beat down the Mould a little with the Back of a Spade, but not too much.

Lay the Cuttings upon this ſloping Side of the Trench at four Inches Diſtance, and throw in the Earth, preſſing it about them with the Hands from Time to Time as the Place is filled up. In the End let all be made level, and the Tops of the Cuttings left an Inch and half out of the Ground.

Give a very good Watering; and after this as it will diſturb the Mould a little, draw ſome as ſoon as it is dry again from the Middle of the Bed; and cover up the Cuttings as at firſt, till only an Inch and half is left above Ground.

Place Hoops at moderate Diſtance over the Bed; and lay ſome Canvaſs ready for drawing upon them as Occaſion requires.

The Evening of a cloudy Day ſhould be choſen for this Buſineſs, and for the firſt three Nights the Bed muſt be covered with the Canvas, as alſo in the Middle of the ſucceeding Days. After this the Bed muſt be always uncovered at Night, and only ſhaded during the Heat of the Day.

The Waterings muſt be repeated often, but not ſo largely as at firſt; and in this Manner ſcarce one cutting in a Plantation will fail.

In five or ſix Weeks they will be rooted, and ſoon after they muſt be taken up, and planted in ſeparate Pots of ſuch Soil as we have directed to be uſed for each Kind under its proper Head.

A great deal of Care is required in taking them up. The Pot muſt be placed near, with ſome of the proper Mould at its Bottom.

The Cutting muſt be taken up with a good Quantity of the Earth about it, and placed upright in the Pot; and the reſt of the Compoſt muſt be immediately thrown in, and cloſed about it; partly to cover up the extream Fibres before the Air withers them; and partly to keep the former Mould about the Plant.

There depends a great deal upon the keeping a good Quantity of the Mould in which the Cutting grew, about it; and this will be the eaſier to be done, if due Care be taken for ſome Days before, to keep the Mould in a due Temper.

If it ſhould be dry and crumbly at the Time, there would be no Poſſibility of any remaining about it; but if the Gardener water the Bed every Day, the Mould will get a Dampneſs, by means of which it will hang together; and by the Help of cutting through it on each Side and below, and moulding it a little in the Hands, there will a very good Ball of it hang about the Plant.

As ſoon as the Cuttings are thus got into the Pots, and the Earth is ſettled about them by Watering, they muſt be ſet in a warm ſhady Place, and the Watering repeated as Occaſion requires, till they are very well rooted in the new Earth, and have a lively and flouriſhing Aſpect. They may then be allowed a little more Sun, but not at Noon; and they muſt not be this Year ſet out among the others.

In the latter End of *September* they muſt be brought into the Green-houſe, and they will thus ſtand the Winter among other Plants, and afterwards will be in no Danger.

This is the Management of the Cuttings of the hardier Exoticks; and the Difference between this, and the Care of thoſe which require additional Heat, is eaſily underſtood.

When the Gardener has laid theſe ſeveral Kinds, let him prepare a hot Bed of ſlight Structure for the others.

In a warm and well ſheltered Part of the Nurſery let him mark out the Form of the Bed four Foot wide, and of ſuch Length as the Number intended to be raiſed requires.

Let him bring in ſome Horſe Dung that has lain in a Heap nine Days; and digging the Mould away two-thirds of a Spade's Depth, let him level the Bottom, and throw in the long Straw from among the Dung. He needs not be very nice about this, only let him uſe a Fork for the Purpoſe, and the longeſt will naturally come up firſt.

This being laid even, and preſſed down a little by Strokes of the Fork, let him throw on ſome more of the largeſt that is left, and ſo finiſh up with the ſmall, which is almoſt pure Dung.

The Bed ſhould be two Foot high above the Surface of the Ground. Let him lay a Foot Thickneſs of pure Mould upon this; and driveing Stakes into the Ground on both Sides, that ſhall riſe two Foot and a half above the Surface of the Mould, let ſome Rails be nailed over the Bed to their Tops, ſo that a Canvaſs can be drawn at Pleaſure over the Bed, without crowding too much upon the Cuttings, or choaking them for want of Air.

All being thus ready, let a Couple of Trenches be opened along the two Sides of the Bed, in the ſame Manner as was done on that in the common Mould; and let the Cuttings from theſe tenderer Kinds be taken off in the ſame Manner as directed there, in the Plants and Shrubs of common Growth; and from the others in the Way we have ordered under each particular Head.

The Mould muſt have laid five or ſix Days upon the Bed before the Cuttings are planted; and the Evening of a mild cloudy Day muſt be choſen for that Purpoſe.

The Work muſt be done expeditiouſly; the Earth well cloſed about the Cuttings, and a moderate Watering muſt be given.

After this the Bed muſt be covered up with the Canvaſs, and only a little Air admitted occaſionally at the Ends till the Cuttings are perfectly rooted.

Theſe Waterings muſt be repeated conſtantly every Evening; and the Mould drawn up afreſh about the Plants, when it has happened to be waſhed away.

When they are rooted, they muſt be allowed more and more free Air in the Middle of hot Days; and when they are ſtrongly eſtabliſhed, they muſt be taken up in the ſame Manner as the others, and planted in ſeparate Pots of ſuch Compoſts as we have declared moſt ſuited to them.

They muſt be watered when thus planted, and the Pots are to be ſet upon the Hot-bed, and covered with the Canvaſs till the Plants are perfectly well eſtabliſhed. Then they are by degrees to be hardened to a little Air in the Noon-time of the Day; and afterwards according to their Condition, to be removed into the Stove, and nurſed as other Plants.

SECT. III.

POMONA, or the FRUIT-GARDEN.

CHAP. I.

Products in Seaſon.

THE Reader will remember by what ſlow Degrees the Catalogue of Summer Fruits has been enlarged till this Time; but the Weather approaches now which Nature purpoſed for the ripening of them; and we ſhall from Week to Week find continual Encreaſe.

Cherries come in abundantly, and many of thoſe which now ripen are of very fine Kinds. The later Dukes are in Perfection, and the Carnation Cherry comes in; the Umber Heart, the Great Heart, and Gaſcoign's Heart are all fine Cherries: the Spaniſh White is alſo a good Cherry of this Seaſon.

To the Peaches we have named before, may be now added the true Troy Peach; and the Royal Anne, will be now in tolerable Perfection.

The Maſculine Apricot will be in very fine Order at this Time under the Hands of a good Gardener; and, with good Care, the Tranſparent, which is a better Fruit: it is a larger Apricot, and is of a very pale Straw Colour.

The Fruit of theſe two Kinds depends more than any other upon the Skill and Care of the Gardener; for unleſs the Trees are extreamly well managed, they afford very little.

The Maſculine comes into bloom early, and the Bloſſoms adhere but ſlightly to the Branches, ſo that the rough Winds of that Seaſon eaſily throw them off; and as they are tender, the Froſts eaſily deſtroys them.

We have directed in what Manner the Branches of tender Kinds are to be ſheltered at early Spring; and if this has not all the Gardeners Attention, its Produce will be very ſmall.

The Management of the Tranſparent Kind depends upon an earlier Care: right planting and good pruning. If the Soil in which this Tree is placed be cold and heavy, the Ends of the young Branches will decay in Spring; and the Fruit will never come to its true Flavour.

The Time of the Products is therefore in this Matter greatly dependant on the Care of the Trees; and one Part of our Deſign infers another.

CHAP.

CHAP. II.

The Care of the Trees.

THE Preſervation of the Fruit from Inſects is now the great Article of the Gardener's Attention; and he muſt continue his Aſſiduity on every Head, as we have directed in the preceding Weeks. Indeed he may the more freely do this, as there is little elſe required at the preſent Time of the Year.

The Ground he has dug, dreſſed, and from Time to Time cleared. The Trees are, according to our Inſtructions, clean from Moſs; and the Danger of Froſts and nipping Winds is over; he has proportioned the Quantity of Fruit in every Inſtance to the Strength of the Tree; and nothing is required of him but to protect from theſe Devourers, what Nature is favourably ripening.

Three Times a Day let him look over the Trees; at Noon for the Deſtruction of Waſps and Flies; and in the Morning and Evening for that of the Snail, Slug, and other creeping Inſects.

This taking up but a ſmall Portion of the Gardener's Time, we ſhall recommend to his Care, for this Week in a particular Manner the Care of Standard Vines.

We have already at large directed him in what Manner to prune, defend, and thin thoſe nailed againſt Walls: but theſe being expoſed without that Shelter behind, will require a particular Management.

The redundant Growth which we directed to be reduced ſome Weeks ago in the Wall Vines, will now require to be taken off here.

All thoſe irregular Shoots which the Plants have thrown out, muſt now be cut away; that the Fruit may not be ſtarved by the Derivation of the Nouriſhment thither, or ſhaded ſo much by this Redundance of Leaves, as not to be able to ripen. Some Shelter we know is required; but we know alſo that too much is utterly deſtructive.

The true Management now is to take off theſe uſeleſs Parts with Diſcretion; and from the Period of their firſt ſpringing to this, they ſhould be rub'd off at their firſt Appearance.

The Stems and Branches muſt be ſecured to the Stakes wherever they are looſe; and when the Gardener has done this, he is to clear away the Weeds.

The beſt Method is by tearing up the larger Growth by Hand; and then digging up the Ground between the Rows with a Spade. This tends more than any thing elſe to the perfecting of the Fruit.

The Buſineſs now is to give them their full Growth, and this can only be done by a due Supply of Nouriſhment, which will be better given by this digging than any other Way.

There is a double Uſe in the deſtroying the Weeds from between the Rows of Vines; for they not only exhauſt the Nouriſhment which ſhould be ſent up to the Fruit, but they choak up the Place, and they exhale a moiſt Vapour; both very hurtful to the Vine.

The free Paſſage of the Air between and among Fruit Trees, every one knows is an eſſential Article toward their obtaining their true Flavour. It is in nothing more needful than in Grapes; and added to this the Dampneſs occaſioned by choaking the Air with their Perſpiration, makes it impoſſible for the Fruit, though every other Kind of Care have been beſtowed upon it, ſhould attain any Perfection.

We complain that our Seaſons do not favour the ripening of Grapes; but our Management of them, whether in the Vineyard or againſt Walls, is indeed more the Cauſe than any Thing in the Climate.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

A Great Part of the Gardener's Care in this Quarter of the Ground, will be for the watering of his various Growths. The Kitchen Garden which has been properly managed, abounds at this Time with Crops of Seedlings; and others that have been tranſplanted into their ſecond or third Beds: the Succeſs of all theſe depends in a very great Meaſure upon Moiſture; and if the

Clouds withhold it, which is too common at this Seaſon, the Hand of Induſtry muſt ſupply the Place.

Let him grudge no Trouble on this Head, for without due Watering, all he has done before will come to little.

Where Weeds have riſen ſince our laſt Directions, that Work muſt be again carefully repeated; eſpecially among the tranſplanted Crops.

The breaking of the Earth for receiving them, will neceſſarily have favoured the Growth of Seeds brought in by the Winds among them, and they will at once choak and ſtarve the Plantation.

This general Method taken of ſupplying Moiſture to all the Crops, and preventing Weeds, which would rob them of their Nouriſhment, the Care will turn upon deſtroying their common Devourers. Theſe are of many Kinds, but no one is ſo terrible in its Havock of the Kitchen Garden Products as the Slug. The wet Mornings and the Dews of Evening entice out theſe, and at thoſe Seaſons the Gardener ſhould never fail to go the Rounds to deſtroy them.

The general Care thus taken of the Ground, and of its Products, let him conſider what Part of it can next be cleared to make way for a new Plantation.

The Turnep rooted Radiſh is a Favourite with many Palates, and no Garden ſhould be without it. This is the Time for ſowing it.

The fineſt Seaſon for taking it up is the latter End of Autumn, and that which is ſown at this Time will be of a very good Growth at that Seaſon.

The Onions intended for Winter Uſe will be now fit for taking out of the Ground. Their Leaves will be withered, and that is the Gardener's Notice for doing it.

A Piece of Ground cleared of theſe, will, with a little Refreſhment, perfectly well ſuit the Radiſhes we have mentioned, and the two Works may be done in a proper Succeſſion.

The Onions muſt be taken up carefully, carried in without bruiſing, and ſpread to harden. A great deal in the eſſential Article of keeping this valuable Root, depends upon the right Management of it now.

As ſoon as the Onion is arrived at its full Growth, the Leaves ſhew the firſt Sign of decaying, drooping and withering: this is the Time for taking the Roots up; and it ſhould be ſo well watch'd, as to do it before the Blade is quite withered off.

When they are carried off the Ground, the End of the Leaves muſt be nipped off, and the Roots ſpread abroad upon the Earth in a dry Place, and at a good Diſtance from one another. Every Day they muſt be turned or moved about, and thus kept drying about ſixteen Days.

After this they may be laid up for the Winter, but in this alſo there requires a great deal of Care. If they be taken in on a rainy Day, the Moiſture hanging about them will be very hurtful afterwards.

If any have been bruiſed in taking up, or in bringing in, they muſt be thrown away, for they would infallibly taint the reſt.

The perfect ones muſt be cleaned from any Remainder of Mould, and laid up not too thick.

With all this Care ſome of them will often taint; and to prevent Damage from theſe, for it is an Infection that ſpreads very quick, they muſt be looked at once in a Fortnight; and if there appear any decayed ones, they muſt be taken out.

While the Onions are hardening the Ground muſt be dug up with a little old Dung, and it will be fit for the Radiſh Seed.

EDEN:

A
COMPLEAT BODY of GARDENING.

* * *

NUMBER XLV.
For the Latter End of *JULY.*

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SECTION I.
FLORA, or *the* PLEASURE-GARDEN.

CHAP. I.
Flowers and Curious Plants now in their Perfection.

1. The DOUBLE RED ROSE.

July.

Pl. 45. Fig. 1.

THERE has been no Time of which we have Account wherein the Roſe has not been celebrated: the Glory of Flowers, the Favourite of Mortals; and in the romantic Forms of antient Expreſſion, the Delight of Gods [1]. They crown'd their Prieſts with it for Sacrifice; their own Brows for Feſtivity [2]. They ſtrewed it upon the Tombs of their Heroes; and covered with it the coſtly Marbles on which they placed their Wines [3]. Beds of Roſes were the luxuriant Couches of Repoſe of Lovers; and we underſtand in what Conflicts he had Honour who ſlept encompaſſed with their Sweets [4].

That more modern Taſte holds them in equal Reſpect, is ſeen in the innumerable Variety we have introduced by the Arts of Culture, in Form, Colour, and Fulneſs of the Petals.

We do not eſteem Roſes leſs than the earlieſt Ages did, but we have more Flowers for our Admiration; and the Wonder is rather, that any one Kind can retain ſo much of our Regard among that Multiplicity, than that this has not more.

July.

The Species particulariſ'd in this Place, the Double Red Roſe, is fitteſt of all to lead the Student and the Gardener together into the original State of the Flower; and the Effects of Culture: for it is ſufficiently raiſed above the Hedge-Roſe, to be eſteem'd a Garden Flower; and yet has no more than Fulneſs and Colour, to diſtinguiſh it from the wild Plant in that State.

All the Authors who have written on Plants, have named it: they have called it *Roſa rubra*; with various Additions from the Condition of the Flower, *flore ſimplici*, *flore ſemi-pleno*, and *flore valde pleno*: the Red Roſe, with a ſingle, ſemi-double, or perfectly double Flower.

LINNÆUS, by a much more determinate Name, calls it *Roſa caule aculeato, pedunculis lævibus ſemi-*

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[1] Ροδον ωφεριϛον ανθος
Ροδα δ' ϑεοισι τερπνα. ANACREON.

[2] *Me juvat & multo mentem vincire Lyæo*
Et caput in verna ſemper habere roſa. PROPERTIUS.

[3] *Et latet injecta ſplendida menſa roſa.* OVID.

[4] *Victor odorata dormiat inque Roſa.*

pinnatis glabris: the prickly Roſe, with ſmooth Footſtalks to the Flowers; and ſmooth and ſemi-pinnated Cups.

This Author himſelf acknowledges the ſpecific Characters very obſcure among the Roſe Kind; nor is this ſtrange when we conſider how Culture changes them. This Name expreſſes the proper Diſtinctions of the Red Roſe when in its genuine and unaltered State; and however much Luxuriance of Soil and repeated Culture may vary the Characters in particular Plants, ſtill there will remain enough to ſhew what they were, and whither the Plant is to be reduced.

The Diſtinctions of Colour our Student knows are nothing more than Variety and accidental Sports of Nature.

The common double Red Roſe thus character'd, and diſtinguiſh'd from others, is a ſmall and weak Shrub.

The Stalks are weak, and of a deep Olive Colour when old; the young Shoots are more green: they have only a few weak Thorns; and on the tenderer Branches ſcarce any.

The Leaves are placed on long Footſtalks, which have a kind of leafy Appendage at their Baſe; and they are of the pinnated Form. Each is compos'd of one or two Pairs of Pinnæ, with an odd one at the End; and theſe are broad, ſhort, roundiſh, and ſharply ſerrated. They are of a deep green on the upper Side, and paler below.

The Flowers have long, round, and green Footſtalks, without Prickles, and they are large and noble. The Multiplicity of their Petals, their various Turns and Foldings, and the deep and glorious Red of the whole Flower, are great and diſtinguiſh'd Marks of Beauty; and they have a very fragrant Scent, tho' inferior to the Damaſk.

The Multiplicity of Petals does not obliterate the Characters of the Claſs, for a Number of yellow Heads are ſeen in the Midſt: but theſe are beſt traced in the plain and ſimple State. We ſhall therefore refer the Student, who would rightly underſtand the Character of the Roſe, to a ſingle Flower.

The Cup is formed of one Piece, thick at the Baſe, where it is rounded; and thence opening into a bell-ſhaped Head, from which run up five long Segments; broadeſt at the Baſe, narrower to the Point, and of a pale green, covered with rediſh Hairs. Of theſe five Segments, two have Appendages on both Sides, one only on one Side, and two others are naked. Theſe different Segments are placed alternately: but Culture often obliterates their Diſtinctions.

The Body of the Flower, in this natural and ſimple State, is compoſed of five Petals; theſe are broad, large, and fixed to the Cup: as are alſo the Filaments in the Centre. Theſe are very numerous, ſhort, and ſlender. They make a Kind of Ring round the Neck of the Cup, and are crowned with three-corner'd Buttons, which form in the Midſt of the Flower a vaſt thick Cluſter.

The Rudiments are numerous, and placed in the Centre of the Cup: from every one there riſes a ſingle, ſhort, and hairy Style, and theſe are cloſe preſſed together by the Neck of the Cup, crowned with obtuſe Heads, and inſerted on the Sides of the Rudiments.

When the Flower falls, the Neck of the Cup draws up cloſer, and its thick Body becomes a Fruit, containing numerous Seeds, and crowned with the Remains of the Segments.

The many Filaments, inſerted in the Cup, and the numerous Rudiments of the Seeds with their Styles, ſhew the Plant one of the *Polyandria Polygynia* of the LINNÆAN Syſtem.

We overlook Things which are familiar; but there is ſomething in this Fructification of the Roſe very worthy of Attention: A Cup forming itſelf into a Fruit, mellowing into Taſte and Colour, is not uſual in the Works of Nature, tho' we ſee it in this common Shrub.

Culture of this ROSE.

We ſhall have Occaſion hereafter to ſpeak of Roſes whoſe Culture requires all the delicate Art of the Gardener; but this is not one of them. It is, in the ſingle State, native of the *Eaſt*, and wild in Hedges in ſome Parts of *Europe*. It is therefore eaſily raiſed to Perfection in our Gardens; and will live in any Expoſure, and any Soil.

It may be raiſed from Seed; but as the Shrub is very common, and the Suckers which it produces freely, take Root without farther Trouble, this is the familiar Way of propagation.

Let a Bed be dug up in the Seminary, in *October*, and the Suckers taken from the Red Roſe Shrubs, planted in it at a Foot Diſtance.

The Suckers taken up for Planting, ſhould be of the ſame Year's Production; for thoſe always take Root more freely than ſuch as have ſtood longer about the Mother Plant. After one Year's Growth in that Bed, they may be taken into the Garden. No Compoſt is needed for them, for common Garden Mould perfectly anſwers the Purpoſe; and all the Care they will require farther, is, every *October* to clear away the Suckers, and to cut out the dead Wood, and thin the luxuriant Branches; taking off ſuch as gall and rub againſt one another.

2. GREAT ANNUAL HELIANTHUS.

Pl. 45. Fig. 2. The Gardener who ſees the Figure of the Sun-flower, will not need be told that is the Plant we mean, though under a Name perhaps before unknown to him. Many Genera have been named unartfully, but none more than this.

Where the Antients have left us Accounts, their Denominations have been uſually retained; and what was known to be ſtrictly improper, yet had its Excuſe; but that is not here the Caſe.

The Sun-flower, ſo conſpicuous in the End of Summer, is native only of *America*, therefore it was impoſſible the *Greeks* or *Romans* ſhould have known it.

A Plant ſo ſpecious could not be overlooked by thoſe who viſited that new World with the Eyes of Science: its Seeds were ſome of the firſt which *Europe* received from that Quarter; and thoſe who raiſed them earlieſt, muſt have been aſtoniſhed as well as charmed, to ſee the vaſt Stalk riſe; and the enormous Flower expand its golden Petals.

Late as our Knowledge of the Plant has been, it was however earlier than the Perfection of the Science; and in Conſequence, thoſe who firſt gave it Names, refering at Random to the eſtabliſhed Genera, fix'd upon ſuch as the preſent improv'd State of Botany cannot adopt.

DODONÆUS, whoſe Imagination was ſtruck with its ſtately Figure, calls it *Herba maxima*; and JOHN BAUHINE follows him.

C. BAUHINE calls it *Helenium Indicum maximum*, Great *Indian* Elecampane.

Our PARKINSON came nearer Truth when he named it *Chryſanthemum Peruvianum*, *Peruvian* Corn Marygold: and GERARD did yet better, in giving it a Name diſtinct from all, *Flos Solis*: this, though not an unexpreſſive is an unartful Term: and LINNÆUS has adopted its Senſe, though from another Language, calling the Plant *Helianthus*. He adds as the Diſtinction of this Species, *foliis omnibus cordatis, nervis pone baſin unitis, extrorſum denudatis*: Heart-leaved *Helianthus*, with the Nerves united behind the Baſe, and naked outwards.

This Author in his earlier Works call'd it only the *Annual Helianthus*; and VAN ROYEN gave it the ſame Name; but more Species have been added to the Genus, and a longer Denomination has thence grown neceſſary.

The Root is fibrous, and ſmall in Proportion to the Plant: but the Fibres are numerous and ſpreading.

The Stalk is rounded, and variouſly ridg'd; thick, of a pale green, ten Foot high, not branching, and properly ſupporting but a ſingle Flower: this gives the Plant its Luſtre and full Glory; this is the regular Courſe of Nature; and this, when Chance diſturbs it, the Gardener ſhould favour, by taking off all Branches as they riſe, and rubbing away the Buds of any ſecondary Flowers: this Way the Plant glows in its full Strength, and flowers in all its Vigour.

The Leaves are numerous: they ſtand irregularly on the Stalk, and they are broad, heart-ſhaped, indented, pale, of a firm Subſtance, and rough to the Touch. They have long Footſtalks.

The Flower is too heavy to be ſupported without drooping. It is the largeſt of all the Compoſite Kind; round, radiated, and, when fully nouriſhed, a Foot and half in Diameter.

The Diſk is of a deep yellow enclining to orange, and is compoſed of numerous, large, and cloſe preſſed Floſcules: the Verge is made of golden Rays, pointed and diſpoſed with an elegant Regularity. Only one Seed follows every Floſcule, but theſe are ſo numerous, and the Flower ſo large, that RAY mentions two Thouſand three Hundred and Sixty-two Seeds from one of them.

In the LINNÆAN Syſtem, the Student knows theſe Compoſite flowered Plants are arranged according to the Condition of the Impregnating Parts in the ſeparate Floſcules; and as the Buttons coaleſce, they are called *Syngeneſia*. The particular Characters are very well worth tracing; and the Flower is here ſo large, that it makes that Taſk eaſy.

The general Cup is ſcaly and expanded, and is compoſed of oblong Parts, broad at the Baſe, pointed at the End, and ſpreading. Beſide this, each Floſcule has its diſtinct Cup: this is placed on the Rudiment of the Seed, and is compoſed of two little lanceolate and ſharp-pointed Leaves.

The Floſcules of the Diſk are cylindrick, ſhorter than the general Cup; at the Baſe ſwelled, rounded, and depreſſed; and cut into five pointed Segments at the Rim. Theſe have the male and female Parts both perfect. Five crooked Filaments are placed in the Baſe of the Floſcule, and terminated by a Head of cylindrick hollowed Buttons.

The Rudiment of the Seed is placed between the general and particular Cup, and has a Style of the Height of the Floſcule, with a Head ſplit into two Parts, which turn back.

The Rays have only the female Part, and this, as it ſeems very imperfect, there is to each a Rudiment of a Seed placed beneath the proper Receptacle, which has neither Style nor Head, and therefore cannot ripen. The Seeds under the other Floſcules come to Perfection.

We have acquainted the Student before, that the Subdiviſions in this LINNÆAN Claſs, are founded on the various Impregnation; and he will recollect, on ſeeing that the Seeds under the female Floſcules or Rays do not ripen, that the Section to which this belongs, is that of the *Polygamia Fruſtranea*.

Culture of this HELIANTHUS.

It is a Native of the warmer Parts of *America*, *Mexico* and *Peru*; yet will bear our Summers in the open Air, and flower in Perfection. It is an Annual; and to bring the Plants forward, there muſt be the Aſſiſtance of a Hot-Bed for the Seeds.

We have before given the Manner of making the Hot-Bed for tender Annuals, and the full Method for their Culture. All that needs be obſerved particularly for this, is, that the Heat of the Bed be moderate, and the Seeds well covered.

They may this Way be ſown in *February*, which will be a great Forwardneſs to the Plants, and will bring them to Flower at this Time, and conſequently to ripen their Seeds perfectly and in full Vigour; whereas thoſe who raiſe them in the open Ground, are obliged to defer the Sowing till much later, and conſequently the Plants flower late, and the Seeds ripen poorly.

When the Seedlings are two or three Inches high, they muſt be planted out into another Hot-Bed, and after a few Weeks they may be removed into a warm Border in the open Ground. No Compoſt is required for them. The Plant thrives perfectly well in common Garden-Mould.

In the Beginning of *May* they will be fit for tranſplanting into the Places where they are to flower. They ſhould be taken up with as much of the Mould as will hang about their Roots, and ſet in Borders among other large Plants; one every twelve or fifteen Foot, with other Kinds between: 'tis thus they will attain their Perfection, and will ſhew themſelves properly. When they are planted near, they ſtarve one another; and they are too big to be ſeen agreeably, if not diſtinct.

When they are planted out this laſt Time, they muſt have the Mould well broken to receive them; and they muſt be largely watered till they have taken Root; after which they will require no more Care.

When they are in full Flower, let ſome of the fineſt be marked for Seed; and let it be carefully ripened and guarded from Birds, for ſecuring the next Year's Growth.

The Number of Petals is uncertain in this Flower; and, like other Kinds, it will be made more double by good Culture. For this Purpoſe, the Flowers which have the moſt numerous Petals, muſt be marked for Seed; and after every Succeſſion, the ſame Care and Conduct being obſerved, the Plants will from Year to Year flower in greater and greater Perfection.

3. GREAT FLAKE CARNATION.

Pl. 45. Fig. 3.

We have acquainted the Student in a preceding Number, what is meant by the *Flake*, and what by the *Bizarre* Carnation: theſe are Gardeners Terms, applied each in a general Manner to ſeveral Kinds of the Carnation, all the Offspring of one Stock, under the various Degrees of Culture and repeated Improvement.

The *Flake* Carnations are thoſe which have only two Colours, in Stripes; and are thence diſtinguiſhed from the *Bizarres*, which have more: this is one of the principal; a very delicate and noble Kind.

The Authors who have written on Flowers, have deſcribed it under the Names of *Caryophyllus albo purpureus*, and *Caryophyllus peramænus*: the purple and white, and the delicate Carnation.

Science refers it to the Clove Julyflower, from whoſe Seeds it originally has riſen: and this LINNÆUS calls *Dianthus floribus ſolitariis, ſquammis calycinis, ſubovatis breviſſimis, corollis crenatis*: Single-flowered *Dianthus*, with ſhort oval Scales to the Cup, and indented Petals.

The Plant, in the Condition wherein we here deſcribe it, has great Superiority over the common Appearance, as well as in the Flower.

The Root is compoſed of numerous long and ſlender Fibres.

The Stalk is very firm, upright, round, jointed, and two Foot high.

The Leaves are narrow, and ſtand two at a Joint; and the Flower is very large and very delicate.

The Colours are only two, a perfect White, and a deep glowing Crimſon: they are diſpoſed in Streaks, and that with a beautiful Regularity, and they go through the Body of the Petals: they are broad and waved, and finely ſet off one another.

The Petals are numerous, broad, indented at the Tops, and they ſpread freely in various Forms, but make the outer Edge or Circumference of the Flower round.

The Cup is double, as in the other Kinds, conſiſting of a few Scales, which make the outer Cup, and a long cylindrick Part, which is the inner, and which Floriſts call the Pod of the Flower.

The Culture of this Kind we ſhall give with that of the ſucceeding.

4. The GREAT BIZARRE CARNATION.

Pl. 45. Fig. 4. The Root, Stalk and Leaves of this are the ſame in Form and Size with thoſe of the preceding: the Difference is in the Flower. This is large and extreamly elegant: full of Petals; riſing in the Middle, rounded at the Verge, and marked in the moſt elegant Manner with three Colours: theſe are a pearly white, a fine ſcarlet, and a deep purple. They are diſpoſed irregularly in narrow and elegantly waved Stripes, and all go through the Petals.

The general Form and Parts of the Flower are the ſame as in the preceding, and both are to be referred to the common *Clove Julyflower* as their Origin. To that alſo in its ſimple State we are to ſend the Student, who would trace the Characters of the Carnation in its plain Form to know the Claſs of the Plant.

The outer Cup is formed of four Scales, placed alternately higher and lower; the inner Cup or Pod has five Indentings; and in the Flower which conſiſts of five Petals, are placed ten Filaments, with compreſſed Buttons, of an oblong oval Form; with two Styles which riſe from an oval Rudiment, and are longer than the Filaments, with crooked pointed Heads: this ſhews the Plant to be one of the *Decandria Digynia.*

The Culture of CARNATIONS.

We ſhall here lay down at large the Culture of this elegant and noble Flower. The Gardener who chuſes to propagate it only by Layers, will find in the Courſe of our Rules the Method of doing that; but we ſhall propoſe to every curious Hand, the taking up the Culture from the Beginning; that he may obtain more and better Flowers.

This is the Seaſon for ſetting about the Work; for the Plants are to be raiſed from Seeds, and it is now thoſe Flowers ſhould be marked from which they are to be ſaved.

Let ſuch Flowers be reſerved for Seed as have the Stalk thick, firm, and well knotted: let the Mould about theſe be well broke at the Surface before they open; and afterwards let them be watered often, though but little at a Time.

Let the Flowers be large; with lively Colours, and firm broad Petals, and with a true Shape or Roundneſs in the whole Out-line.

It will be proper to mark ſeveral of the ſtrong Plants before their Flowers are ſeen; and out of theſe to ſelect, when they are in Bloom, thoſe whoſe Flowers have the Properties we have juſt deſcribed.

Theſe being marked afreſh, and ordered for Seed, as we have directed on former Occaſions, by taking off all ſecondary Flowers, by watering the Plants while in Bloom, and while the Seeds are ſwelling; and omitting all Water, when they have attained their Growth, let the Compoſt for the Plants be prepared thus:

Mix a Load of rich dry Paſture Mould with half a Load of Pond Mud, and a Quarter of a Load of Cow Dung; add two Buſhels of Woodpile Earth, and one Buſhel of ſharp Sand, with the ſame Quantity of Soot.

Let theſe be very well blended together, and lie open to the Air. They are to be often turned, and thus will be fit for Uſe by that Time they are wanted.

When the Seeds are ripened in the Pods, they muſt be cut off, and ſpread at a Diſtance upon a Shelf in an airy Room.

When they have lain thus a Fortnight or three Weeks till perfectly hardened, they muſt be put up in ſeveral Paper Bags, not too many together, and hung up on Lines in the Seed Room all Winter.

At the End of *March* chuſe a Part of the Seminary which is open to the South Eaſt, but ſheltered from the Noon Sun, and from all cold Winds. Mark out a Bed three Foot broad, and as long as needful for the Quantity. Dig up the Mould a Spade Depth, and break it well. Cover it with three Inches of the Compoſt: lay the Surface then perfectly level, and ſcatter on the Seeds with an even Hand. Sift over them a third of an Inch of the ſame Compoſt, and thus leave them.

The raiſing of theſe is not ſo tedious a Buſineſs as that of bulbous Plants. They will appear in about thirty Days from the Sowing; and if the Mould grow dry, they muſt at Times be watered. Thin them where they riſe too cloſe; and in this Bed let them remain till Midſummer, weeding and watering them as Occaſion requires.

About the Time we have named, the laſt Week in *June*, or ſooner if the Plants by their Size are ready for Removal; make a larger Bed in the ſame Manner, covering it with five Inches Thickneſs of the Compoſt. Level the Surface, and draw Lines each Way at four Inches Diſtance; and in the Centre of every Square thus formed, plant one of the Seedlings. Give them a gentle Watering as ſoon as they are in the Ground; repeat this every Evening till they are rooted, and ſhade them with a Reed Hedge.

Six Weeks they are to remain in this Bed: and then let him prepare another.

This muſt be four Foot wide, and covered ſix Inches with the ſame Compoſt: in this Bed the Plants muſt ſtand in three Rows, at nine Inches Plant from Plant; and be again well watered and ſhaded till they are firmly rooted.

In this Bed they muſt ſtand to flower, obſerving to weed and water them frequently.

The firſt Years flowering will give a very reaſonable Promiſe of what is to be expected, but there is no judging of a Flower perfectly till after the ſecond.

The beſt Plants ſhould have all their Shoots laid in this Bed.

All the inferior Kind ſhould be taken up and planted out into other Parts of the Garden: and the Layers of the others muſt be taken off when they are well rooted, and planted in Pots; or in conſpicuous Parts of Borders, according to their Value, and the Pleaſure of the Owner.

The Method of Laying we have given in a preceding Number: the Shoots are to be carefully ſecured in three Places by Pegs, or forked Sticks, and well covered, and well watered till they have taken root.

If the Flower Stem be cut down as ſoon as theſe are laid, and the Plant not ſuffered to blow that Year, the Layers will be the ſtronger. At the utmoſt, the Flower if ſuffered to open, ſhould be taken off as ſoon as it has ſhewn its Beauty; for he who ſhould ſave Seeds from a laid Plant, will ſpoil the Layers.

When the Layers are well rooted the fineſt muſt be taken off, and planted each in a ſeparate Pot in the ſame Compoſt. Theſe muſt be ſet in a ſhady Place, and watered till they are well rooted.

In the Beginning of *October* let a Piece of Ground be dug up in a dry Part of the Seminary, with a good Quantity of Sand among it; and in this let the Plants be ſet, burying the Pots up to the Rim. A Parcel of Hoops muſt be placed over this; and there muſt be a Covering of Canvaſs ready to draw over them in bad Weather.

The Layers being thus preſerved through Winter, ſhould be planted out into larger Pots of the ſame Compoſt for flowering in Spring. The Seaſon muſt determine this; but, in general, the Beginning of *March* is a good Time.

When they are planted in theſe larger Pots, they muſt be ſet in a ſhady Place, and watered every Evening till well rooted.

Six Weeks the Pots ſhould ſtand there, and at the End of that Time they ſhould be removed to the Place where they are to flower; this muſt be open to the Morning Sun, but defended againſt the full Noon Beams, and againſt cold Winds.

The Choice of this Place is a very eſſential Article for the well flowering of the Plants. Tho' defended from ſharp Winds, it muſt not be ſmothered by too much Shelter; for unleſs the Air come freely among the Plants, the Flowers will never be fine.

The Stalks will ſoon riſe for Flower. Two may be ſuffered from one Root, but a ſingle one is better. There muſt be a Stick planted in the Pots for tying them up as they riſe, and all Side-ſhoots muſt be taken off as they appear.

When the Buds appear for flowering, the inner Cup muſt be opened in three or four Places, to favour the regular ſpreading of the Petals; and it muſt be defended from Wet, and too much Sun, by a Glaſs Cap; covered occaſionally with a Piece of Bays.

After this a Paper or Card Collar may be placed under the Petals; and the Gardener muſt from Day to Day, as they diſcloſe themſelves, favour their ſpreading, that they may be ſupported every where by the Collar, while they hide it compleatly; and he is afterwards to lay the ſeveral Petals handſomely one upon another; they will remain as they are placed, and make a very regular Appearance.

While they are in Flower, they muſt be carefully watched to prevent Deſtruction from Inſects; and watered moderately, and often, with Water from a ſhallow Pond that lies expoſed to the Sun.

Thus they will be brought to flower perfectly, and continued in their Beauty as long as Nature will permit: and by ſaving Seeds from the fineſt Kinds that ripen them well from Time to Time, the Stock will be encreaſed and improved every Seaſon.

5. DOUBLE VIOLET POPPY.

Pl 45. Fig. 5.

This is a ſpecious Plant of eaſy Culture: an Animal which bears the open Ground, and lives with no more Care than Weeds in the Garden; varying in a Thouſand Forms in the Flower, but in all elegant; and often very bright and glorious in the Colouring.

The Generality of Authors who have written on Flowers have named it; and in the various States in which the Chance of Growth has ſhewn the Flower, have too often given it diſtinct Denominations. It has been called *papaver hortenſe flore purpureo*, and *flore pleno violaceo*, and ſimply *papaver flore pleno.*

Linnæus rejecting the Diſtinctions of Doubleneſs and Colouring in ſpecifick Names, calls it, *Papaver calycibus capſuliſque glabris foliis amplexicaulibus inciſis:* ſmooth cupped and ſmooth headed Poppy, with Leaves ſurrounding the Stalk, and cut at the Edges.

This is the proper Name of the Garden Poppy in its plain and ſimple State; and to this he refers all the painted, double, and otherwiſe diſtinguiſhed Flowers. Ray did the ſame before him. He deſcribes the Plant under the Name of *Papaver ſativum*, and refers all the Varieties to one common Stock. We know the Seeds of one Kind produce them; and this is the great Article for judging of theſe Diſtinctions.

The Root is long, white, and hung with a few ſlight Fibres.

The Leaves are long and large: they riſe without Footſtalks, and their Colour is a pale blueiſh or greyiſh green.

The Stalk is of the ſame pale pearly green, and four Foot high; ſmooth, round, and toward the Top branched.

The Leaves on this are placed irregularly, and reſemble thoſe from the Root: they ſurround the

Stalk in part at the Baſe, and they are long, broad, and jagged at the Edges.

The Flowers ſtand at the Tops of the main Stalk and Branches, and they are very large and ſpecious. They naturally conſiſt of four large Petals: in the Middle of which, as in the Anemones, riſe Multitudes of ſmaller cluſtered together in various Manners, and in different Numbers, according to the Degree of Culture and Accidents of Growth.

The Colour is a deep violet purple, very full, rich and elegant. The Baſes of the large outer Petals are deepeſt, and the Colour ſpreads itſelf in a paler Tinct throughout.

The ſmaller inner Petals are of a paler Hue, and often variegated with red and white, with Streaks or Blotches of a purple, ſo deep that it is nearly black. In this, Culture makes vaſt Variation; but to the Botanical Student we are to obſerve, that the Characters of the Claſs muſt be ſought in the ſingle, plain, and ſimple Flower.

He will find this at firſt ſupported by a ſlight, though large Cup, formed of two oval Leaves, hollow, obtuſe, and of ſhort Duration.

The four Petals which in this ſimple State compoſe the Flower, are broad, large, and expanded; and two are ſmaller than the others, and placed alternately.

In the Centre ſtand numerous, ſhort, and ſlender Filaments; crowned with oblong, obtuſe, compreſſed, and upright Buttons. Theſe ſurround a large, roundiſh Rudiment of a Fruit; on which, without any intermediate Style, reſts a flat radiated Head like a Shield.

The Filaments he will find inſerted on the Receptacle; and this with their Number ſhews the Plant one of the *Polyandria*, the ſingle Style one of the *Monogynia*.

The Rudiment ripens into a large round Seedveſſel, covered with the Head, and opening by many Apertures under it. In this are numerous Seeds in a ſingle Cavity, but ſeparated in part by many Ridges from the Sides of the Head.

The Culture of this being the ſame with that of the ſucceeding Kind, we ſhall give them together.

6. FEATHERED POPPY.

Pl. 45. Fig. 6. We have told the Student that the various Garden Poppies of this large Species, are all the Offſpring of one common Kind: this, which Authors have called *Papaver flore pleno laciniato:* the double jagged flowered Poppy; ſome *Papaver diſectum:* the ragged Poppy; and our Gardeners not improperly, the Feathered Poppy, riſes together with the preceding, from the Seed of the common great Garden Kind, to which we have referred that, and differs in little more than the Structure of the Flower.

The Root is large, long, white, and hung with Fibres.

The Stalk is a Yard or more in Height, and the Leaves are of a greyiſh or blueiſh green; oblong, and cut at the Edges.

The Flowers are large, and conſummately beautiful. They are compoſed of numerous long Petals, which are cut and jagged deeply into many Parts at the Edges, and have ſomewhat of a feathered Aſpect.

Their Colour is naturally a very elegant and bright ſcarlet, but they are varied in this Reſpect without Limitation: they are ſometimes blotched, and often elegantly ſtreaked with purple and with white.

The Baſes of theſe Petals are naturally white, as thoſe of the other are blackiſh; and there is uſually more or leſs of the white mixed with great Elegance in the whole Flower.

The whole Plant in this, and in the other Kind, as in the common white Poppy, abounds with a bitter Juice of an opiate Smell.

Culture of theſe POPPIES.

The Plant is a Native of the ſouthern Parts of *Europe*; and flowers wild, but with no great Beauty in waſte Grounds, in many Parts of *England*, where ſcattered Seeds from Gardens have accidentally fallen.

From this Plant, which in its common State has a ſingle Flower with pale Petals, whoſe Baſes are dark or blackiſh; Culture has raiſed the innumerable Varieties with which our Gardens abound, and of which theſe are the two principal.

Let the Gardener obſerve that we ſpeak here only of the tall large Garden Poppies; for thoſe ſmall Kinds which are called Dwarf Poppies, are the Offſpring of the common wild red Poppy of our Corn Fields, treated in the ſame Manner.

All the Varieties of which we have ſpoken here, are to be obtained from Seeds; and there will riſe from every Sowing, when properly managed, many others: the Colouring will vary without Bounds; and after repeated Sowing of good Seeds, there will be many Flowers obtained ſcarce inferior to Carnations. The Method to be obſerved is this:

When the Plants are in Flower, let the fineſt of them be marked for Seed; and upon theſe let only three Heads ripen on one Plant. Let them ſtand upon the Plant till they are very well hardened, and then be taken off and laid on a paper'd Shelf.

When they have lain there three Weeks, at a

Diſtance from one another, and turned every Day, let them be cut open; and the Seed ſcattered looſe upon the Shelf. When it has lain thus ten Days, it will be fit for ſowing.

Let a Bed of rich and fine Garden Mould be well dug and levelled at the latter End of *September*; and upon this ſprinkle the Seeds tolerably thick, ſift over them a Quarter of an Inch of Mould; and leave them to Nature.

When the Plants have a little Strength, thin them to four Inches Diſtance, leaving the ſtouteſt; water theſe at Times, and keep them carefully weeded; and when they are ſo large as to touch one another thin them again. Leave only as many of the ſtrongeſt Plants as will ſtand at eight Inches Diſtance, and from this Time weed and water them carefully.

When they are near flowering, let the Gardener keep a watchful Eye upon them; and as ſoon as he perceives any ordinary Flower, let it be pulled up. There will be found among the others a Variety of beautiful Kinds; and the Seeds of the beſt of theſe which ripen them well, muſt be ſaved for the next ſowing.

This muſt be done every Year; and the Bed of them muſt be every Time upon a new Piece of Ground: thus the Plants will improve every Year in Elegance; and if a ſufficient Quantity be raiſed, there will be often new Varieties produced.

Let the Gardener underſtand this Change of Place rightly: it is the eſſential Article in the raiſing Annuals in the common Ground. The Principle in Nature on which it is founded is not known; but the Fact is ſufficiently eſtabliſhed, in this and a Thouſand other Inſtances.

The Farmer finds great Advantage in obtaining the Seed Wheat for his Crop from a diſtant Place; and it is equally true, that the Seeds of annual Flowers ſucceed much better upon new Ground, than on that in which the Plants grew which produced them.

7. The DOUBLE MUSK ROSE.

Pl. 45. Fig. 7.

We have ſaid that in a ſucceeding Number we ſhall deliver the Culture of the moſt elegant and choice Kinds of Roſes; but there remain ſome others more eaſily raiſed; which, for their Singularity, or Elegance, demand a Place.

The *Muſk Roſe* is one: its Flower is inferior to many other Kinds in Size, and in Colour is ſimply white, but the Scent makes Amends for its other Defects, and the Number of the Flowers is ſome farther Recommendation.

The Generality of Authors who have written on Flowers have named it. The BAUHINES call it *Roſa moſchata flore pleno*, and *Roſa moſchata minor flore pleno.* The early Writers only *Roſa moſcata alba.*

LINNÆUS, who refers the Varieties boldly in this Genus to their proper Species, calls it *Roſa caule aculeato pedunculis lævibus, calycibus ſemiſpinnatis glabris:* prickly Roſe with ſmooth Flower-ſtalks, and ſmooth ſemipinnated Cups.

The Root ſpreads, and is very hardy.

The Stem is firm, but not thick, and the Shoots are numerous: it makes a Buſh of three Foot or more in Height: prickly in all Parts except the Foot-ſtalks of the Flower.

The Leaves are large, they are pinnated, and of a pale green: each is compoſed of about two Pair of Pinnæ, with an odd one at the End; and theſe are ſerrated at the Edges.

The Flowers are very numerous, and perfectly white. They have the muſky Scent, but much leſs than the common ſingle white Muſk Roſe, and they are not of the larger Kinds; their Petals are numerous, but uſually folded irregularly together.

There is a great deal of Difference in the Aſpect and Scent of this Roſe, according to the Degree and Manner of Culture: when the Flower is moſt regularly expanded it ſmells moſt ſweet.

The Characters when traced in the ſingle Flower, are the ſame as in the firſt Kind deſcribed in this Number; and it is to be cultivated in the ſame general Manner. It requires a better Soil, and more Compaſs; and muſt never be ſuffered to run too high, or to be loaded with too much Wood.

The richeſt Garden Mould is the proper Earth for it; the Buſh ſhould be planted at a Yard Diſtance every Way from any thing elſe, and the exuberant Shoots kept under.

Every *October* it ſhould be pruned with a bold Hand; and every Spring a great Part of the Mould ſhould be taken off, and freſh put in its Place all round it. Then in the Beginning of the flowering Seaſon it muſt be well watered, and too many Flowers muſt not be ſuffered to blow, nor any to ſtand after they have paſſed their Beauty.

8. The HUNDRED-LEAVED ROSE.

Pl. 45. Fig. 8.

This is a very elegant and noble Roſe, vaſtly beautiful, doubled, and fragrant. All the Writers on Flowers have named it, and all with Praiſe.

Pl. 45.

1 The Double Red Rose

2 Great Annual Helianthus

3 Great Flake Carnation

4 Great Bizarre Carnation

5 Double Violet Poppy

6 Feather'd Poppy

7 The double Musk Rose

8 The hundred leav'd Rose

J. Hill del. et Sculp.

Clusius, from the Number of Petals in the Flower, and the Country whence it was received, named it, *Roſa centifolia batavica:* the Hundred-leaved Dutch Roſe; a Name moſt others have followed. — C. Bauhine calls it, *Roſa multiplex media:* the middle double Roſe.

Linnæus, who has ſought more eſſential Marks of Species, calls this *Roſa caule aculeato pedunculis hiſpidis, calycibus ſemipinnatis glabris:* the prickly Roſe with hairy Footſtalks to the Flowers, and ſmooth ſemipinnated Cups.

The Shrub is moderately large: the Wood firm, and the Branches long and prickly.

The Leaves are pinnated, compoſed of one or two Pairs of large fair Pinnæ, which are of a freſh green, and ſerrated at the Edges.

The Flowers are very large and beautiful: they are rounded, compoſed of almoſt innumerable Petals; elegantly, though wildly thrown and folded together; and they are of a delicate Red.

The Characters of this Kind are the ſame as in the common Roſe, but they muſt be ſought in a ſingle Flower: we have given them in the Account of the firſt Roſe in this Number.

CHAP. II.

The Care and Management of the Ground.

THE great Care of Weeding and Watering, Rolling and Mowing, muſt be continued with an uninterrupted Hand. This is the Seaſon of enjoying the Pleaſures of a Garden, and every Thing ſhould contribute to that Satisfaction.

The Labour of bringing Flowers to Perfection has been very great, and it would be highly unfit that there ſhould want a little Neatneſs now to ſet them off.

This done, let the Gardener look to the Layers he has lately made of Sweet-williams, and Pinks, and particularly of Carnations. They will all require Care; but the beſt the moſt.

Let him water theſe once in two Days, gently, but thoroughly; and every Time ſee that their Sticks keep them ſecurely in their Places.

If the Mould be removed by the Watering, let him put freſh in the Place, that they remain equally and well covered; and if any of them do not take kindly, let him ſhade them from the Sun.

This Care taken of thoſe already laid, he may go on with the Buſineſs of Laying others, where required. 'Tis beſt to do this ſooner; but where it has been omitted through Neglect, or where the Shoots intended to be laid have not been ready, it may very well be done now: only as it is a more advanced Seaſon, there muſt be more Attention paid to every Part of the Operation; and particularly to the well covering the Layer, and the Waterings.

Though every other Evening may be enough for the Layers which have been in the Ground ſome Time, thoſe which are put into the Mould now, will require it every Evening; and they will not root freely, if the Seaſon be very warm, without good Shade.

We adviſed the ſowing ſeveral of the Biennials late in the Spring; theſe will now require tranſplanting. There muſt be a Bed of freſh Earth dug for them, and they muſt be taken up out of the Seed-beds in a cloudy Evening, and planted in this new Ground at four Inches Diſtance, and thoſe of large Growth at greater: they will require to be well and frequently watered till they have taken root; and after that they muſt be weeded from Time to Time during the Remainder of the Summer.

In Autumn they muſt be removed into the Places where they are to flower.

Once in two Days let the Gardener gather the Seeds of ſuch Plants as have been left for that Purpoſe, and ripen many Heads: he muſt from Time to Time cut off thoſe which are moſt ripe.

The Middle of the Day is the beſt Time for this, becauſe the drier they are when laid upon the Shelf, the better they will harden.

On the contrary, all tranſplanting at this Time of the Year, muſt be done in an Evening about Sun-ſet; and the Waterings will take moſt Effect if given an Hour or two before that Time. Theſe Cautions are proper throughout the Year, but they are indiſpenſable now.

Let the careful Gardener look over all thoſe Summer Plants which produce a great many Flowers. The Purpoſe is to continue theſe in Succeſſion, and it muſt be done by preventing the ripening of Seeds.

Where theſe are intended, the Plants are to be marked for that Purpoſe; and after ſome good Flowers are blown, the Buds of others are to be taken off, that the Force of Nature may be directed to the ripening of Seeds in thoſe: This is an eſſential and important Point, though not enough regarded.

The Seeds of thoſe Flowers which blow firſt are always ſtrongeſt; and when too many are ſuffered to ripen upon one Plant, all will be indifferent. Therefore in the ſetting for Seeds, all thoſe Plants which have many Flowers, the ſix or eight firſt blowing ſhould be marked.

If any of theſe are not perfectly fine, ſuch muſt be taken off; and only as many more ſuffered to open as will ſupply their Places: all others muſt be taken off as they offer themſelves in the Bud; and thus the Perfection of the Seeds, in thoſe reſerved for that Purpoſe, will be attained.

While this Care is taken of thoſe Plants left for Seed, let the Flowers of the others be managed for Beauty, and a long Succeſſion upon the Principles we have laid down on other Heads; for in Gardening the ſame End will always be attain'd by the ſame Means, whether the Subject be Plant, Shrub, or Tree; whether the Object of Attention be Flowers, or Fruit.

In theſe Plants too many Flowers muſt never be ſuffered to blow at a Time, nor any to ſtand longer than they are in full Beauty. Therefore when there are too many at a Time upon the Stem, ſome muſt be taken off. At all other Times no Flower whatſoever muſt be permitted to remain longer than while in the full Glory of its Bloom; for when they begin to fade they alſo begin to ſet for Seed.

In regard to the others, as there are uſually more Efforts toward flowering than a Plant can ſupport, to bring all to Perfection, therefore ſome ſhould be taken off while in the Bud; and thoſe left on ſhould be ſo ſelected, as to form a kind of Head regularly terminating, or covering the Plant.

The Gardener need not fear from this that he will have but a ſmall Bloom; on the contrary, it is the true Method, and indeed the only one to procure a long and fine Succeſſion of Flowers.

The cutting off thoſe Flowers which begin to fade will give the Plant a Tendency to ſend out more Side Branches; and this will be more promoted by the Method here directed, of not ſuffering too many Flowers to open upon it at a Time: the frequent Waterings which we direct alſo to be given to Plants in that Condition, will greatly favour it; and by this very Means, ſuppoſed at firſt Sight likely to decreaſe the Number of the Flowers, they will be produced in twice or three Times the Quantity; and will continue in Beauty a long Time, inſtead of appearing in one great Cluſter, and exhauſting the Root.

The Beauty of a Flower Garden depends more than many People are aware, upon theſe nice Points in the Management of the Plants: few have conſider'd the Nature of Vegetation, and except thoſe under our own Eye, few have practiſed them in the punctual Manner here directed: this is the Seaſon, and we have therefore given the whole Method.

Let the Gardener keep a watchful Eye upon thoſe Cuttings of Exotick Plants, which we directed him to make ſome little Time ago. They will require watering and ſhading; but both in Moderation: the Watering muſt not be ſo great as to keep the Ground like Pap, nor muſt the ſhading of thoſe Kinds which we order'd to have Hoops and Mats put over them, exclude the Air at proper Times.

The Uſe of Canvas and Matting is againſt the Noon-day Sun; and in thoſe Caſes where the Coldneſs of Nights is kept off by it, ſtill there require frequent Admiſſions of the Air.

Cuttings will live under more Cloſeneſs than Plants which are in an active State of Vegetation; but ſtill they require ſome Air: this muſt be admitted as ſuch Times as will leaſt interfere with the general Purpoſe, and leaſt chill the Bed.

SECT. II.

The Care of the SEMINARY, *for this Week.*

THIS Week the Gardener is to continue his Care of thoſe Stocks he has budded the preceding Weeks; looſening the Bandages of ſuch as have been done eighteen or twenty Days, that the Juices may not be ſtop'd in their due Courſe: and he is to continue the Work; buding Cherries, Plums and Pears. The Evening of a cloudy Day, when the Air is cool and moiſt, is the proper Time.

Our Caution of being expeditious in the Work muſt be obſerved, the more as the Weather is hotter, and leſs favourable.

The Operation of budding is the moſt delicate of all that are practiſed on Trees, and the great Art is to commit the Bud to the Stock in as natural a State as poſſible. The Air never fails to injure it; and this the more, as it is the hotter: theſe are the Reaſons why a cool, moiſt Kind ſhould be choſen; and an expeditious, tho' careful Hand employ'd.

The Layers of the ſeveral Trees and Shrubs which was put into the Ground laſt Month, will require to be very well attended.

The Buſineſs is to get them to root before Winter; and this muſt be aſſiſted by the keeping them ſecurely in their Places, and by repeating the Waterings: as the Water waſhes off any of the Mould, more muſt be ſupply'd in its Place; but a great deal of Care muſt be taken not to diſturb that which lies about the Branch; for the young Fibres that will in ſome Places be beginning to ſhoot, would be hurt at this Seaſon by the leaſt Motion.

Continue the Care of weeding and watering the young Exotic Trees, particularly thoſe of the reſinous Kinds, which were planted out of their Seed-Beds the Month before. Theſe will require a due Care, but with that there is no Hazard. They muſt be ſhaded at Noon, and watered lightly once in two Days; and the Mould muſt frequently be broke between them, to prevent Weeds, and to make it fit for abſorbing the Dews.

This and the ſucceeding Week, let the Gardener tranſplant Evergreens; and it will be proper that he allow them more Care in this Reſpect than is uſually done. Theſe Trees ſeldom fail to thrive when tranſplanted at this Seaſon, tho' of conſiderable Size, if there be due Attention ſhewn them, but without that they receive a Check very difficult to be recovered.

The Method is to open a large Hole for each, and break the Earth perfectly at the Bottom; then to bring in the Tree, taken up with a large Ball of Earth to its Root, and ſetting it upright, to trim all the extreme Fibres. Immediately after this, let ſome Water be poured upon the Ball of Earth, which was brought in with the Root, carefully from a Watering-Pot, and ſome of the fineſt Mould ſprinkled over the Ball. This gives the new cut Ends of the Fibres a fine freſh Covering; and before it dries on, or moulders away, the reſt muſt be brought over it, by filling up the Place.

The Mould muſt be thrown in with a ſwift but careful Hand; and when it is all in, and well cloſed about the Roots, there muſt be a large Watering: but this, though large in Quantity, muſt be given with Moderation; for the Intent is, that it work itſelf ſlowly down between and among the Roots; and this is never well executed unleſs the Gardener allow Leiſure, and give the intended Quantity of Water at four or five Times, with moderate Intervals.

This muſt be repeated every other Evening; by Degrees leſſening the Quantity: and thus there will be no Fear of Succeſs.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THE choiceſt Fruits are now ripening, and the Gardener's beſt Care muſt be employed to promote that eſſential Purpoſe. He underſtands the Principles of his Art by this Time well enough to know how this is to be done.

We have directed that no Plantation whatſoever be made upon the Borders in which Fruit-Trees are planted; and if no uſeful Herbage be allowed, he will very well know that there muſt be no Weeds.

Let him break up the Surface of the Mould with the three-prong'd Fork: but it muſt now be done but very lightly and ſuperficially. As ſoon as this is done, let him allow a gentle Watering, and let this be given at a Diſtance from the Stem.

The Buſineſs now is to ſwell the Fruit: too much Water would at the ſame Time impoveriſh it, and debaſe the Flavour: a little only ſupplies the want of Rains, which are unfrequent at this Seaſon; and, as I have found by repeated Experience, and fair Compariſon, it will have all the Advantage of ſwelling the Fruit, and at the ſame Time will improve its Flavour.

What I have found by Tryal, and by the Compariſon of Fruit from watered and unwatered Trees at this Seaſon, I may ſafely proceed to explain.

The Flavour of Fruits, though determined by the Veſſels of the Tree, yet is originally elaborated from the Particles which the Root receives from the Earth: theſe require to be moiſtened, in order to their penetrating the Fibres, or being receiv'd by them; and when this is not done, when Nature refuſes Showers, and the Gardener neglects Watering, the Fruit is more imperfect than when Showers have been too abundant.

In all the Operations of Nature there is underſtood and required a certain Degree of Moderation, beyond or beneath which is equally hurtful. This Nature means always, but cannot without repeated Miracles conſtantly accompliſh. The Art of the Gardener is to ſupply the Defects: to ſupply them it is neceſſary that he firſt ſee them; and then that he make this Moderation his Rule of proceeding.

If he will watch and keep Journals of his Fruit-Trees for ſeveral ſucceeding Years, he will find that in very wet Summers the Fruits are always ſwelled and ill-flavoured; that in very dry Times they want both their natural Size and Reliſh; and that it is only in thoſe Summers which are refreſhed by moderate Rains, that they are perfect. He will by this learn eaſily a proper Conduct.

In very wet Summers it will be in his Power to ſerve the Fruit-Trees greatly, by drawing a Mat from the Top of the Wall to the Ground, at ſome Diſtance, and thus defending them againſt the worſt Showers: and this will be eaſy, for the Summer is a Seaſon when his Mats and Canvas are out of Uſe. In dry Summers he will be able to do much more by this: He may allow Water in the due Degree, and at the neceſſary Time only.

He may give it to thoſe Trees whoſe Fruit is taking its Growth; and either refrain entirely, or give it with a very moderate Hand to thoſe which have full-grown Fruit, and are ripening it. Thus he may always keep the Trees in order, and preſerve and perfect all the Fruit left upon them.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THIS Week let a Piece of Ground be dug up, and ſome Colewort-Seed ſown upon it with Care, for the Uſe of the ſucceeding Spring. Theſe Crops which are to be ſown ſo long before the Time of uſing, are apt to be neglected more than any others; but the Gardener is ſure to be ſorry for ſuch Neglect.

There is very little Trouble in putting them into the Ground in Time; and they want only Weeding and Watering afterwards till the Seaſon of Tranſplanting; after which they will ſtand the Winter without Danger, and come in for Uſe at a Seaſon when there is little elſe.

Another Piece ſhould be dug up for the tranſplanting of Broccoli; and after this the whole Ground being weeded, and the young Crops watered as they require, all will be put into good Order.

The Care of Melons at this Time is a very nice and delicate Article.

The Gardener has been ſo often told how wrong it is to give them too much Water now the Fruit is taking its laſt Growth, that he allows them none; but this is a Practice as falſe as the other. We have ordered him to lay a Piece of Tile under the ſeveral Fruits, to prevent the Damps of the Ground from chilling and rotting them; and this will have the farther good Effect of reflecting the Sun-beams upon them to ripen them; but 'tis the ſame in theſe as in the Fruit on Trees, too much Sun and no Water will ſpoil them. The ſame Caution is to be obſerved; and Moderation is the Rule.

Once in three Days it will be proper to give the Plants a moderate Watering; and this ſhould be done with great Care, not to wet the Branches or the Fruit: only to give Moiſture to the Mould in which the extreme Roots run.

Upon this Subject of Melons, we have been favoured with an eaſy and excellent Method of raiſing them in Places where there are Stoves, and ſhall give it in the Words of our ingenious Correſpondent.

SIR,

“ The Gardener who has the Advantage of a
“ Pine-Stove, may raiſe Melons on it with little
“ Trouble. The general Method of building
“ them now is with a Flue, which runs round both
“ the Ends and the Front. Upon theſe Flues I
“ have raiſed ſome very early and finely flavoured
“ Melons, in this Manner:

“ I make Boxes four Foot long, two Foot
“ broad, and ten Inches deep: theſe I fill with
“ the richeſt and fineſt Mould, and place them
“ on the Flues, ſupporting them at the Height
“ of two Inches from the Top of the Flue, by
“ half a Dozen Pieces of Brick-bat. This is
“ neceſſary on two Occaſions: it prevents the
“ Earth from drying too faſt, and the Box of
“ Earth from hindering the riſing of the Heat
“ for the warming of the Air in the Stove.

“ The Time of ſowing theſe, and the general
“ Management, are the ſame with thoſe of
“ Melon-Plants raiſed in the common Way; and
“ it is beſt to raiſe only one ſtrong Plant in each
“ Box; or two if leſs vigorous.

“ This, which I have done ſucceſsfully, I ſhall
“ be glad if you will publiſh for the Uſe of my
“ Brother Gardeners who have the ſame Conveniences:” I am,

SIR,

Your moſt humble Servant,

T. BARNES.

E D E N:

A COMPLEAT BODY of GARDENING.

* * *

NUMBER XLVI.

For the firſt Week in *AUGUST.*

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SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. GREAT WHITE ASPHODEL.

Auguſt.

Pl. 46. Fig. 1.

THE *yellow Aſphodel* we have deſcribed in a preceding Number, a ſpecious Summer Plant; nor is this, though of a ſimpler Colour, leſs elegant. The Gardener has been long acquainted with it; and it is very worthy always to retain its Place in our Collections.

The earlier Writers who have deſcribed it, call it *Aſphodelus albus*; and diſtinguiſhing the Plant from an accidental Variation in the Growth into two Kinds, they call it *Aſphodelus ramoſus albus*, and *Aſphodelus non ramoſus albus:* the white branched, and white Aſphodel with a ſimple Stem. They alſo add the Term *major*, from its conſiderable Size.

LINNÆUS rejecting theſe ſlight Differences from the Conſtruction of ſpecifick Diſtinctions, refers the Plant in both States to one Kind, and he names it *Aſphodelus caule nudo foliis enſiformibus carniatis lævibus:* naked ſtalked Aſphodel, with ſmooth, hollowed, ſword-like Leaves.

The Root is compoſed of many tuberous, roundiſh, or oblong Parts; of an acrid unpleaſant Taſte, and hung with many Fibres.

The Leaves are long and narrow, ſharp pointed, hollowed, and of a tough ſpungy Subſtance.

The Stalk is round, ſmooth, naked, and two Foot and a half high.

Auguſt.

From the Middle upwards, it is covered with a Spike of large and elegant Flowers. In the moſt perfect State of the Plant this ſingle Spike terminates the Stalk; but ſometimes it is divided into a kind of Head by the Partition of the Stalk into a Number of Branches. In either caſe the Flowers are the ſame as well as the Stalk, Leaves, and Root; wherefore they trifled who from this made out a ſeparate Plant.

The Flowers are of a pure milky white on the Inſide, but on the outer Part each Segment has a Rib of pale purple.

The Student recollects what we have ſhewn of the green Rib along each Petal of the Flower of the *common Star of Bethlehem*; this purple one upon the Segment of the preſent Plant is perfectly of the ſame Kind.

The Flower has no Cup: it is compoſed of a ſingle Petal divided deeply into ſix Segments; and theſe are oblong, lanceolate, and expanded.

At the Baſe of the Petal is a Nectarium compoſed of ſix ſmall Valves, which converge into a globular Form. From theſe Valves riſe the Filaments, ſix in Number, and crowned with oblong incumbent Buttons, which riſe upwards.

The Filaments are arched, and are alternately longer and ſhorter.

The Rudiment of the Seed-veſſel is placed within the Nectarium. It is roundiſh, and ſends

ſends up a ſlender Style with a blunt Head.

The Seed-veſſel is rounded and fleſhy, divided into three Parts; and contains in three Cells, numerous triangular Seeds, which ſwell out on one Side.

The Student will ſee that the ſix Filaments and ſingle Style refer it to the *Hexandria Monogynia*, the ſixth Claſs in the Linnæan Syſtem, and its firſt Section.

Culture of this Asphodel.

We find the Plant wild in the ſouthern Parts of *Europe*, and it is frequent alſo in the *Greek Iſlands*. There the oldeſt Authors, whoſe Works remain to us, found it, and thence they firſt removed it into Gardens: partly for the Beauty of the Flower, partly for the Root, which they held eſculent. This Hesiod mentions, and after him Theophrastus.

It appears ſingular to us at this Time, that ſo ill taſted a Root ſhould be kept for ſuch a Purpoſe; but we find they roaſted it: and after thus evaporating the moſt diſagreeable Juices, mixed it with Figs; their Sweetneſs, and its Acrimony, mutually tempering one another. This we learn from the expreſs Words of Theophrastus.

Some have tranſlated what has been ſaid by the *Greeks* of its eſculent Quality, and applied it to the Squill. Then it appears doubly abſurd.

Others have ſuppoſed the *common Star of Bethlehem* to be the *Aſphodel* of Hesiod, and have thence called it the *Hyacinthine Aſphodel:* they may quote Galen who are againſt the Opinion of this Plant being the *Aſphodel* of Hesiod; but to refer to Theophrastus is to call in a higher Authority. He lived much nearer the Time of Hesiod, and may naturally be ſuppoſed to have underſtood what he meant: this Plant which is common to *Italy*, *Spain*, and *Greece*, is evidently his *Aſphodel.* It is very eaſily propagated, and with due Care not difficultly improved.

The Roots increaſe abundantly, and the common Method of raiſing it is by parting of them in Autumn: but it grows freely from Seed, and this is the Way to obtain it in Perfection, and to improve it.

The Seed ſhould be ſaved with Care, gathering it when ripe, and drying it on a papered Shelf. Then mix equal Parts of rich Garden Mould, and common Paſture Earth. Dig out a Piece of Ground in the Seminary enough for the Seeds, and fill the Place with this Compoſt; and in the End of *Auguſt* ſow the Seeds.

When the Plants come up let them be thin'd, and in this Bed let them ſtand a Year; weeding and watering them as neceſſary.

The *September* following dig out a Piece of a Border on the Garden, chuſing a dry Place, and fill it with the ſame Compoſt. In this plant the Roots eighteen Inches aſunder, and they will flower the next Summer. All they will require after this is, to be taken up every Year at the latter End of *Auguſt*, and to have a freſh Compoſt of the ſame Kind thrown into the Place. They muſt at theſe Times be reduced in the Root when they grow too large, and theſe Partings will grow freely.

The Flowers will have no Variation except in Bigneſs, and in the Degree of Colour of the Streak behind: but if the Seeds of the beſt Plants be ſaved and ſowed from time to time, the whole will become much more ſtately, the Flower larger, and the Ribs behind of a ſtronger and finer Colour.

2. PRÆNESTINE ROSE.

Pl. 46. Fig. 2.

We have obſerved that there would come under our Conſideration ſome elegant Kinds of Roſes: this is one; and as it requires ſome Care in the Culture to preſerve its Beauty, will ſtand as an Example of the more delicate Kinds.

The Authors who of late Time have treated of Plants have named it, and all with great Praiſe: it is indeed one of the moſt ſingular and elegant of the known Kinds. They call it *Roſa præneſtina duplex*, and *Roſa præneſtina variegata*; and our Gardeners from the Mixture of the Red and White in it, the *York* and *Lancaſter Roſe*.

Linnæus, who rejects all theſe Names as inexpreſſive of characteriſtick Diſtinctions, refers the Shrub to the *Roſa campeſtris ſpinoſiſſima flore albo odorato*, of C. Bauhine: which in his more expreſſive Manner, he calls *Roſa caule petioliſque aculeatis calycis foliolis indiviſis:* the thorny Roſe with prickly Footſtalks, and the Leaves of the Cup undivided.

This is a very correct and accurate Name for the Species in its wild State; but Culture, while it improves the Flower, wantons alſo in other Parts of the Shrub; and in this, as in other of the Roſe Kinds, obliterates often the Marks of the Species.

The Shrub is of moderate Height, and ſpreads into numerous Branches: when well managed it will make a very handſome Buſh of four or five Foot high.

The main Stem is prickly, and even the Footſtalks; but this uncertainly.

The Bark of the old Wood is of a deep olive; that of the young Shoots is green, often ting'd with red.

The Leaves are numerous and handſome. Each conſiſts of about two Pairs of Pinnæ, with an odd one at the End; theſe are oblong and finely indented, and their Colour is a freſh green.

The Flowers are large, numerous, and extreamly elegant. They are double, and of a good Shape; and their Colours are two, a ſtrong

Auguſt. red and a paler, or in the Place of the paler a white.

The Variations under which theſe are mixed and blended are innumerable; but the moſt elegant State of all others, is when the Body of the Petals is of a delicate blueiſh Colour, a white juſt tinged with red; and the Variegation is a deep and ſtrong Crimſon, laid on in regular and even Stripes. Sometimes there are ſeveral Shades of red, ſometimes only one red, and a pure white; and in ſome Caſes the red or deeper Colour, inſtead of ſtriping all the Petals, takes entire Poſſeſſion of a Part of them, and is not ſeen at all in the reſt.

Under all theſe Appearances the Shrub is to be conſidered as entirely the ſame, and all the Care muſt be to ſelect the fineſt for Propagation.

The Characters are the ſame as in the other Roſes, and the Claſs and Place among the *Polyandria Polygynia.*

Culture of this ROSE.

The *Præneſtine Roſe* may be very well propagated by Layers; but the original Method, and the beſt is by Budding. It was originally a Variety raiſed by Sowing, but this is a leſs certain, as well as more tedious Method.

The Gardener who would have the fineſt Kinds in full Perfection, muſt chuſe Cuttings from a flouriſhing and fine Shrub, and bud them upon the *Franckfort Roſe.*

The Method of doing this is alike in all Trees and Shrubs, and we have delivered it at large on a former Occaſion. All that need be obſerved in particular here is, that the *Frankfort* is preferable to any other Kind as a Stock, becauſe it produces fine clean Shoots, which unite with the Buds with great Facility; and that in the performing it, all that is required to enſure the Succeſs, is a good Day, and with a careful Hand, Expedition.

The latter End of *June* is the beſt Seaſon for it: An Evening of a cloudy Day ſhould be choſen for the Work; when there is no Wind, and a mild damp Air. Auguſt.

The Cuttings muſt be taken off juſt before they are uſed; and the Stalk being prepared, they muſt be let in at once, and ſecured by a ſlight tying of old Baſs well ſoaked.

Let the Stalk be budded near the Ground, and after three Weeks let the tying be looſen'd to give free Circulation.

Thus far the common Practice agrees with us, and this is all moſt do; but there is a Method of improving greatly upon this Principle.

When the budded Part has one Year's Growth, let it be carefully put into the Ground in the manner of a Layer, fixed down with Pegs, covered three Inches deep with rich Mould, and water'd often: it will thus take root kindly, and will give inſtead of a budded Stock, an original Tree, which will ſtill retain with the delicate Nature of the Bud, all the good Qualities of Hardineſs and ſtrong Growth of the Frankfort Kind.

Nor is this all the Advantage. We have obſerved in treating of the more common Kinds of Roſes, that the eaſy Way of propagating them is by Suckers.

In the common Way of preſerving the *Præneſtine Roſe* upon the Frankfort Stock, all the Suckers will be of the Frankfort Kind: but when the budded Part has been thus laid, and has rooted, it becomes an original Tree, though with the borrowed Qualities of the other; and the Suckers which it annually produces are of the Præneſtine Kind, not of the Frankfort. This gives a free Way of encreaſing the Stock, and ſaves the Trouble of laying the Branches: all the Care needful in regard to the Suckers, is to take them up every Year; for after they have ſtood longer than one Seaſon, they do not take root kindly. Theſe ſhould be planted out in the Nurſery, and then brought to a Size for the Garden.

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3. SCARLET CHALCEDONIAN LILLY.

Pl. 46. Fig. 3. Among the firſt Plants we received from the Eaſt, this obtain'd a Place in our Gardens, and all who have written of Flowers in later Time have named it. They have called it according to their Fancy a Lilly, or a Martagan.

Our Student knows that Martagans are true Species of the Lilly, and therefore will not cavil at the Term.

C. BAUHINE calls it, *Lilium Byzantinum miniatum*, the ſcarlet Lilly of Conſtantinople; and when the Flowers are numerous he ranks it as another Kind. RAY ſaw his Error; and LINNÆUS confirmed that Author's Judgment, placing the two as the ſame Species.

The common Writers call it, *Martagon Byzantinum*, and *Martagon Conſtantinopolitanum*; and ſome *Hemerocalcis Chalcedonica*.

Our Gardener knows it by the Name of ſcarlet Martagon, but his Oracle, tranſcribing from TOURNEFORT the Miſtake which he copy'd from C. BAUHINE, he follows in the ſame Path, and ſuppoſes the Kind with few and that with many Flowers, to be diſtinct in Species.

LINNÆUS refers the Plant to the Lilly Kind; and adds as the Diſtinction of the Species, *foliis ſparſis lanceolatis, floribus reflexis, corollis revolutis:* lanceolate ſcattered leaved Lilly with drooping Flowers, whoſe Petals turn up.

The Root is bulbous, and hung with many Fibres.

The Stalk is round, thick, two Foot and a half in Height, and hollow; of a pale green, ſpotted in the lower Part with red, and marked with Rays from the Head of the Bulb.

The Leaves ſtand irregularly, and are numerous. Their Colour is a freſh green, and at the Edges they ſhew a little Hairyneſs. They are rib'd and ſharp pointed; and oblong, and largeſt near the Middle.

The Flowers are large and beautiful; their Form is that of the Martagon Flower, but they are much bigger, and their Colour is a high and noble ſcarlet.

The Characters are the ſame with thoſe of the other Lillies.

The Flower riſes naked from the Footſtalk, and is compoſed of ſix Petals, which unite at the Bottom, forming a ſmall campanulated Baſe.

The Filaments are ſix, and they are crowned with large ſcarlet Buttons.

The Style is ſingle, and terminated by a thick three parted Head.

The Seed-veſſel, from whoſe Rudiment it riſes, is oblong, and marked with ſix Furrows, and contains in three Valves numerous Seeds in double Rows. The ſix Filaments and ſingle Style ſhew the Plant one of the *Hexandria Monogynia*.

Culture of this LILLY.

It is a Native of the Eaſt: yet will bear the Cold of our Winters, and thrive perfectly well in an open Border: but they do ill who becauſe it is hardy, ſuppoſe all Soils are equal to it.

There is no Plant ſo ſuſceptible of Diſadvantage, or Improvement, from the Variety of Management in the common Reſpect, of Place and Temper of the Mould, even when the Gardener gives himſelf no more Trouble than the propagating it by Off-ſets: but when he follows the true Method of raiſing it from Seeds, he will have in his Power almoſt an endleſs Scope of Advantage.

Though this Plant will bear Cold, let the Gardener underſtand that it will not bear the Shade of Trees, nor ever thrive in a Soil enriched with Dung.

Therefore whether he raiſe it from Seeds, or only plant the Off-ſets from other Roots, let him thus prepare a Compoſt for it:

Mix equal Parts of rich Meadow Earth and Pond Mud; add to a Barrow of theſe a Buſhel of Wood-pile Earth, and a Peck of Soot. Let this lie expoſed to the Air ſome Months, turning it at Times.

Chuſe a Part of the Garden that lies dry and open, fronting the South Eaſt: dig out the Mould from part of a Border, and fill up with this.

In the Beginning of *September* let the Off-ſets be planted in this Bed at a Foot Diſtance, and cover'd two Inches with Mould: and every Year afterwards they muſt be taken up and planted again in a freſh Soil at the ſame Seaſon.

Thus may the Plant be propagated with little Trouble; and its Flowers this Way will be equal to thoſe of the original Root: but to improve the Flower, the Gardener muſt begin from the original Source; and raiſe it from the Seed. For this we ſhall give him Directions from a ſucceſsful Experience.

Let him mark for Seed two or three Plants when in Flower, ſelecting ſuch as have a great deal of red upon the Stalk, and have the Leaves ting'd with brown: they muſt be ſuch as promiſe many Flowers; but he muſt only ſuffer about three to blow upon each, and the ſtronger the Colour of theſe the better: they muſt be ſuch as ſtand in an open Situation; for under too much Shade the Leaves are greener, and the Flowers are paler: this CLUSIUS long ago diſcern'd, and our own Experience confirms it.

The Seeds from theſe Plants muſt be ſaved with great Care, and dry'd on a paper'd Shelf.

In the ſecond Week in *Auguſt* prepare a Bed in a Part of the Seminary open to the Morning Sun: make it with the ſame Compoſt, and ſcatter on the Seeds.

Cover them a Quarter of an Inch by ſifting Mould over them, and thus leave them to Nature. The Bed muſt be weeded often; and watered as there may be Occaſion; and the Plants thin'd where they appear too thick.

In *Auguſt* let the Bulbs be carefully taken up, and planted in a freſh Bed at more Diſtance; and in the Beginning of the *September* following, let them be again removed and planted at a Foot Diſtance.

The ſucceeding Year they will flower, and the Gardener will ſee among them a Variety very well repaying his Trouble. He will have Plants with a few, and others with very numerous Flowers: ſome with greener Leaves and fainter Flowers; others robuſt and rough, with diſcoloured Foliage; but with Flowers of a ſcarlet, deeper and finer than he can match from all the Colours of the Painter. He will have Variety in their Size alſo, as well as Number and Colour; and in ſome Plants the Leaves will be ſpotted with purple, and the Flower Blood colour'd.

As the Number of Plants from this Sowing well be very great, the ſecond Year's flowering ſhould determine how to diſpoſe of them. It would be raſh to reſolve upon the Appearance of the firſt Bloom, becauſe they often alter after this.

When they flower the ſecond Summer, let the Gardener mark the fineſt, and thoſe moſt differing from one another: theſe, when the Roots are taken up in the ſucceeding Autumn, ſhould be planted at fifteen Inches Diſtance, in a Bed made up in the Flower Garden, according to the Direction we have given for managing the Off-ſets; and the others may be planted out in common Borders, for there will be few but what are worthy a Place in the Garden.

After this the finer Kinds muſt be taken up every Autumn, and their Off-ſets ſeparated; and they muſt every Seaſon have a freſh Quantity of Compoſt.

I have ſeen from this Management a Plant with one Flower only, which has continued unaltered in that State many Years; but from the Bigneſs and fine Colour of the Flower, has given a fine Exception to the Gardener's common Rule, that thoſe in this Kind are unworthy Notice, which have not many on a Stalk. Every Thing that is excellent in its Kind is to be valued.

Theſe Obſervations give Credit to what thoſe who firſt cultivated the eaſtern Plant in *England*, have left concerning it; for they have made the ſame Remark, that this Lilly will often be very fine with only one Flower. It ſeems from this, and many the like Inſtances, that they underſtood the Culture of bulbous Plants better than modern Vanity allows, or would be pleaſed to hear.

4. The DOUBLE BLOSSOMED BRAMBLE.

Pl. 46. Fig. 4. Our Hedges, under the due Improvement, furniſh Gardens. It would not be eaſy to name a meaner Shrub than the common Bramble; yet curious Art has raiſed its ſingle Flower to a roſy Fulneſs, and a roſy Colour; and rendered it a Favourite among the fineſt Plants of remote Regions.

Luxuriant Nature has ſometimes mimicked the Gardener's Labours, and added to the Number of Petals in this Flower in its native Hedge; but 'tis in the more regular Culture alone we can expect its Perfection. In the ſingle State all Writers on Plants have named it: they call it *Rubus*, *Rubus vulgaris*, and *Rubus major*; ſome *Rubus fructu nigro:* the Bramble, the common Bramble, the Great, and the black fruited Bramble.

The Fruit is ſometimes white by accidental Variation, and from this RAY has raiſed an imaginary Species: in the double State of the Flower, *Magnol* and others, have called it *Rubus flore albo pleno:* the white double flowered Bramble: this is but half its Beauty; for the Bluſh of red in its Colouring, when fully perfect, is equal in Elegance to the Doubleneſs.

LINNÆUS, who juſtly refers this and the white fruited Bramble as Varieties to the common Kind, calls that *Rubus foliis quinato-digitatis, ternatiſque caule petioliſque aculeatis:* the Bramble with prickly Stem and Footſtalks, and with Leaves digitated in fives and in threes. A long Name for a common Shrub, but needful to diſtinguiſh it from the others of the ſame Genus.

The Root is long and ſpreading.

The Stem is weak, purpliſh, and drooping; and that and the Footſtalks are equally beſet with Thorns. Several Boughs uſually riſe together, and ſpread themſelves every Way: theſe droop with their own Weight; and ſo full of Life is the Shrub, that when they touch a favourable Soil, they will root again at the End or Head, and thence ſend out new Shoots; which, if left to Nature, root at their Heads again.

I have ſeen in the *Iſle of Ely* an Acre of rich moiſt Ground, neglected by the Owner, cover'd with the arched Boughs of this common Shrub; which took off all the Miracle of the arch'd *Indian* Figtree.

The Leaves are not inelegant, three or five adhere to one common Footſtalk, each with its particular Pedicle: they are oblong, but conſiderably broad; irregularly ſerrated, of a deep but not unpleaſing green on the upper Side, and whitiſh underneath; the middle Rib alſo on that Part is prickly in the Manner of the Footſtalk.

The Flowers terminate the Stalks and Branches, and riſe in Numbers alſo from the Boſoms of the Leaves; they are numerous, and very elegant; ſo many diminutive Roſes; round, full of Petals, white, with a delicate Bluſh of Crimſon, and very regularly form'd.

Their internal Structure is to be traced by the Student in the ſingle Flowers of the common Bramble; for here, as in other Caſes, where Nature is luxuriant in Petals, they are diſturbed, obliterated, and abortive.

In the common Bramble the Flower has a Cup divided into five permanent Segments; and is itſelf compoſed of five broad, rounded Petals fixed to them.

The Filaments are numerous in the Centre, and fixed alſo to the Cup: this ſhews the Shrub to be one of the *Icoſandria:* when they are numerous, and fix'd to the Receptacle, the Plant is of the *Polyandrous* Tribe.

In the Midſt of the Filaments riſe numerous ſhort Styles, each fix'd ſide-way to a Rudiment of a Seed, and each terminated by its little Head; this places the Plant among the *Polygynia.*

The Fruit is compoſed of numerous Grains forming one complex Berry, and each containing one Seed.

Culture of the DOUBLE BRAMBLE.

Though the Hedge knows no Shrub ſo common as the ordinary Bramble, not three Plants of it in a Kingdom, ſhew naturally double Flowers.

If it happen that in the Neighbourhood of the Gardener there is found this Singularity, he will do well to bring it into his Ground, for he will eaſily improve it into the full Beauty of the double Kind; good Nouriſhment will encreaſe its Bigneſs, and a dry Soil will give the elegant Bluſh to the Colour.

Auguſt.

Whether from ſuch a Stock, or from one already raiſed to Perfection in another Garden, the Culture and Propagation is eaſy. No great Care can be needed to make the rude Shrub of a Hedge live in good Ground; nor can there be any Difficulty in increaſing a Plant whoſe Shoots will take root whereſoever they touch the Surface. The Root loſes nothing of its Hardineſs for having finer Flowers; nor is the Principle of Life leſs ſtrong in the Garden than the Hedge.

A great Advantage in the proper Diſpoſition of this Plant is, that with all its Elegance it will live where other Shrubs would come to nothing. No Soil is too poor to feed the Root, no Shelter, or over-ſhadowing of Trees prevents its flowering.

Let the Gardener therefore ſee for a Place where other Shrubs thrive ill; and mark it for the double flowering Bramble.

As to its Propagation, Nature points the Way: it is to be by Layers. Theſe will take root where they do but touch a proper Ground, much more when they are regularly plac'd, covered, fixed down, and watered.

One Year after laying they may be taken up, and planted in the Places choſen for them. They ſhould be water'd at firſt; but after the Roots have once ſhot their Fibres into the new Mould, nothing hurts them. They ſhould be allowed Room to ſpread; and their Suckers taken off always in Autumn. They may be planted out as the Layers; but whether they were wanted or not, it would be right to take them away, for they would hurt the original Plants.

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5. MANDRAKE.

Pl. 46. Fig. 5.

The Stories credulous Men have told relating to the *Mandrake* Root are all falſe and frivolous; but the Plant is ſingular enough to deſerve a Place in every good Collection.

The Writers on Botany have known it from the earlieſt Time, all name it, and all under the ſame common Term *Mandragora*. They add indeed the Terms of *mas* and *femina*, the Male and Female Mandrake: the former to the Plant when the Fruit is round; the latter, when it is Pear-ſhap'd; but the Diſtinction is ill ſupported. The ſame Seeds produce both, and Linnæus is juſtify'd in refering them to one common Kind; he uſes the Term *Mandragora* as the Name of the Genus; and as he allows no Diſtinction of Species, adds no Epithet.

The Root is long and thick, ſimple, or divided, as Accidents determine, and hung with many Fibres.

From this riſe numerous and vaſt Leaves, long, moderately broad, waved at the Edges, pointed, and of a duſky green.

Among theſe ſpring up a Number of little Footſtalks, ſlender, rediſh, three Inches high; each at its Summit bearing one large Flower.

This is of a whitiſh Hue, more or leſs ting'd with a deep purple; ſucceeded by a round or oblong large Fruit.

The Cup in which the Flower is placed is hollow'd as a Bell, form'd of one Piece cut into five Parts, and rib'd. One Petal forms the Body of the Flower, but it is deeply cut into five Segments.

In the Midſt ſtand five arched Filaments, hairy at their Bottoms, and ſurrounding a roundiſh Rudiment, from which riſes a ſingle Style. The five Filaments place the Plant among the *Pentandria*, the fifth Claſs of Linnæus; and the ſingle Style ſhews it one of the *Monogynia*.

The Fruit is divided into two Cells; and has, with a fleſhy Receptacle convex on each Side, a Number of Kidney-ſhaped Seeds.

The whole Plant has an unpleaſant Smell, and a gloomy Aſpect.

The Root, concerning which ſo many Fooleries have been divulged, and however ſtrange, believed, differs in nothing material from other long Roots. Naturally it is ſingle, and reſembles nothing more than a Carrot, except in Colour. Sometimes it is divided, or forked, as we ſee Radiſhes, and in this State it has been ſuppoſed to repreſent a Human Body and Legs. To this the Artifice of Vagrants has added a carved Head; and often the whole has been form'd by Art from a Bryony, a Marſhmallow, or an Angelica Root; and the credulous Vulgar have ſuppoſed the whole Form real.

The Miſtakes of Commentators on thoſe early Writings in which the Plant is named, the ſacred not excepted, have been ſcarce leſs ridiculous than theſe Follies of the Mob.

The ſacred Writings name a barren *Iſraelitiſh* Woman, deſiring eagerly the Fruit of the Mandrake. *Dudaim* the *Hebrew* Name, has been underſtood originally to ſignify this Plant; but the Mandrake has been accounted poiſonous.

The Commentators ſhould have employ'd their Attention to diſcover, Whether this were a true or trivial Charge: inſtead of this, they have filled Pages with learned Folly, endeavouring to ſhew that ſome other Plant, and not the Mandrake, was intended there.

It is now known that the Fruit of the Mandrake is eſculent, and innocent. Faber, of the *Lynnean* Academy, eat a whole Fruit before his Pupils; and Terentius, who tells the Story, confirms the Truth, by aſſuring us that himſelf eat another.

All the Antients join in declaring Mandrake a powerful uterine Deobſtruent.

Since

Auguſt. Since therefore the Fruit of the Mandrake is innocent, and poſſeſſes the very Qualities for which this Perſon mention'd in the Scriptures wanted it, how idle have been the Labours of thoſe who would have explain'd away the Meaning of the Name. From this let ſuch Men learn, that to explain Scripture where natural Subjects are mention'd, the Method is to ſtudy Nature; for certainly he knew theſe Things who made them.

Culture of the MANDRAKE.

The Plant is hardy, and almoſt univerſal. The warmeſt Parts of *Europe* have it wild in common, with *Greece*, *Egypt*, and the reſt of the *Eaſt*; nor, though *England* wants it, is it deny'd wholly to the more *Northern*.

Its Culture in the Garden is eaſy.

In Places where it is native, it thrives beſt in a light deep Soil, and open Expoſure. This we are to imitate; and in ſuch Places, and ſuch Soil we muſt raiſe it from the Seed; which it ripens freely with us. But this muſt be done in the Garden where the Plants are to remain; for one great Article in the perfecting it is, never to remove it.

Let a ſmall Spot, in ſome open Part of the Ground, be ſelected; and the Mould being dug out four Foot deep, let the Place be filled with any one of the light Compoſts; ſcreening it firſt that there may remain no Lump or Stone in it to ſplit the Root: for though the imaginary Reſemblance of the human Form depends upon the dividing of the Root, the perfect flouriſhing of the Plant will be owing to its running down to a great Depth ſingle, and uninterrupted.

On ſuch a Bed of Earth let ſome Seeds of the *Mandrake*, ſaved from a ſtrong Plant, and dryed carefully, be ſown in the Beginning of *September*.

Let the Bed be weeded and water'd occaſionally; and when the Plants are ſo far advanced that it can be ſeen which are the ſtrongeſt and moſt promiſing, let the weak ones be taken up, and theſe left at two Foot and a half Diſtance: they will after this require only the common Care of weeding and watering, and they will flower annually, and produce ripe Fruit in full Perfection. The Depth to which the Root ſtrikes, prevents all Neceſſity of renewing the ſuperficial Part of the Soil.

We have ſhewn in what Manner the Gardener is originally to prepare for it, and after this it will grow every Year ſtronger; for we know no Plant whoſe Root ſo long retains its Vigour.

6. SPANISH BULBOUS IRIS.

Pl. 46. Fig. 6. We have mentioned ſeveral of the *Iris*'s of this Kind, all elegant, and all hardy: this is another, for both thoſe Reaſons very well deſerving the Care of the Gardener. Few of the Writers on Flowers have named it; and from the Singularity of its Colouring, we may thence conclude they have not ſeen it.

The Tincts of the *bulbous Iris* are almoſt univerſally blue, violet and yellow: a fleſh colour'd Flower could not have miſſed their Notice who deſcribed as if diſtinct Species, thoſe ſlight Changes made by a different Colouring of the upper or the lower Petals.

DE BRY has figured it under the Name of *Iris bulboſa Hiſpanica non deſcripta:* the new Spaniſh bulbous Iris: the Variation in its Colour and Form, though very conſiderable, are not enough to give it place as a new Species: it is only to be conſider'd as a Variety of the *bulbous Iris* we have before deſcrib'd; and which LINNÆUS calls *Iris corollis imberbibus, foliis ſubulato-caniculatis caule brevioribus:* beardleſs Iris with hollow'd and pointed Leaves, ſhorter than the Stalks.

This Name the Student is to underſtand as given to the Plant in its original State; for among other of its Singularities in this Form, the Leaves often equal the Stalk in Height.

The Root is conſiderably large in Proportion to the Plant; and in Compariſon of the other Kinds; whitiſh, and hung with Fibres.

The Leaves are few, but long; they are of a fine freſh green, ſharp pointed, hollow'd, and of a firm Subſtance.

The Stalk is two Foot high, ſlender, and delicate; of a pale greeniſh Colour ting'd often with red, and not at all branch'd.

The Leaves on it are oblong, narrow, and ſharp pointed. They are naturally of a paler green than thoſe from the Root, but often become rediſh, eſpecially the lower ones.

One Flower naturally terminates the Stalk, and this is extreamly delicate: it conſiſts as the other *Iris*'s, of ſix Petals, three of which turn downward, three ſtand up, and is furniſh'd alſo with three leafy Heads to the Style.

The univerſal Colour is a pale fleſhy red. The three upper Petals are paler; the three lower deeper, and each mark'd with a yellow Spot toward the End; ſometimes alſo theſe lower Petals are ſtreaked with white.

The Characters are the ſame with the other *Iris*'s.

The Flower has no Cup.

The ſix Petals unite at their Baſes; and there are three Filaments with long Buttons, and a ſingle Style with a three-parted Head. This ſhews the Plant like the others, to be one of the *Triandria Monogynia* of LINNÆUS; his third Claſs, and its firſt Section.

Culture of this IRIS.

We have obſerved that this elegant Plant is no more than a Variety of the *bulbous Iris*, not a diſtinct Species; the Gardener will therefore underſtand eaſily, that his Method of obtaining it muſt be by Seeds.

Let him remember what we have told him on many of the like Occaſions, that his great Hope is to ariſe from ſowing a large Quantity; and afterwards ſelecting for a ſecond Growth, the Seeds of thoſe particular Plants which comes neareſt his expected Kind.

In order to this, let him mark firſt for Seed ſome ſtrong and good Plants of the *bulbous Iris*. Let him ripen ſome, and harden this as we have directed on other Occaſions; and ſow it with the Care we have preſcribed in treating of the common Kind.

When the Plants flower he will ſee a great Variety, and from among theſe he muſt ſelect ſome particular Plants for Seed again. Theſe ſhould be ſuch as have pale Flowers, and upon the whole appear delicate, and leſs robuſt than the others.

Theſe ſown upon a Soil ſomewhat poorer than the Compoſt directed for the reſt, will improve in this natural Delicacy; and he will have ſeveral with elegant, pale, ſimple, and variegated Flowers.

This Method of raiſing from the Seed is the only Way of procuring a continual Variety, and this never fails.

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CHAP. II.

Care and Management of the Ground.

THE firſt Care of the Gardener this Week ſhould be that of his Auricula Plants. 'Tis now ſome Time ſince he has been entertain'd with the Variety and Elegance of their Flowers: Nature has had her Time of Reſt after flowering, and is now preparing to form the Bud for the ſucceeding Seaſon. This muſt be aſſiſted by all poſſible Means.

The Earth in which they have grown in their Pots being ſmall in Quantity, is by this Time exhauſted; and Nature, which is preparing to ſend out new Shoots from the Root, is prevented by the decay'd Ends of the old. This is to be remedy'd, and the Plants clean'd before they are freſh potted.

Let a Quantity of the Compoſt we have directed for this Flower be laid ready, and then begin with the Plants: ſhake out the Ball of Earth from the Pot, pick it away from the Roots except a very ſmall Quantity; trim their extream Fibres, and pull off any decay'd Leaves there may be about the Plant.

Pour in ſome of the Compoſt into the Pot, and ſet the Plant upright upon it; fill in more; and by degrees cloſing it well about the Roots, bring it as high as the Head of the Plant. Give a gentle Watering to ſettle it, and then draw on a little more of the Compoſt to make Allowance for the ſinking.

Clean and plant every Root in the ſame Manner, and then ſet the Pots in a ſhady Place, and continue watering them gently every other Night till they are perfectly fix'd again, and rooted in their new Mould.

The puſh that Nature is now making is for forming the next Year's Flower, and it will be vaſtly ſtrengthen'd by this timely Refreſhment.

We find it neceſſary to remove and change the Mould of whole Beds, in which fine Flowers are to blow, much more may we be aſſured it is neceſſary to change that which is kept in the Compaſs of a little Pot; prevented from the common Advantages and Improvements of that in Borders, and ſhut as it were from thoſe common Advantages which ariſe from the Moiſture of the Body of the Ground, the Steams from below, and in ſome degree from Dews. This is a Reaſon why particular Regard ſhould be had to the Earth in Pots.

We have on many Occaſions directed the Top of the Mould to be taken out of theſe Pots, and a Supply of freſh in its Place, but this is only a partial Refreſhment: there is a Time when Nature is at Reſt, and when the Root of any Plant will bear to be removed without Hurt, becauſe it draws little Nouriſhment.

At this Seaſon it ſhould be taken up and replanted in freſh Soil; and it will ſhew the Advantage in very obvious Characters in the next Year's Bloom. The great Care is to hit upon the right Seaſon.

In the bulbous Plants we are inform'd of this by the decaying of the Stalks and Leaves, but in others there wants that plain and obvious Information. Theſe we muſt watch with the more Care; but the great Rule will be had from the Conduct of Nature in the others. The great Effort is for the ripening the Seed, and the diſplaying of the Flower which precedes it. Toward this every Thing tends for the greateſt Part of

Pl: 46.

1
Great white Asphodel
2
Prænestine Rose
3
Scarlet Chalcedonian Lilly
4
Double Bloſsom'd Bramble
5
Mandrake
6
Spanish bulbous Iris.

of the preceding Year, and when this is over; when the Seed has been ripen'd, or the Flower gather'd to prevent it, there is a State of Inactivity for ſome Weeks; and in the bulbous Kinds, the Bulb is as it were renewed.

In the fibrous and tuberous rooted, the Bud begins after that Time to be form'd for the next flowering, therefore this Space is to be choſen for taking up the Root, and refreſhing it by a new Soil.

The Error of Gardeners is omitting it too long: they ſtay till new Fibres are ſhot, and they diſturb that Work, which, by an earlier Application of the ſame Induſtry, they would have promoted.

While this Care is taken of the Plants which have flower'd, the Seedlings will require alſo their Share of the Gardener's Attention.

We have ſaid in what Manner they are to be raiſed; and thoſe Rules having been follow'd, they will be now fit for tranſplanting.

Let a Piece of Ground be choſen for them which is defended from cold Winds, and from the Noon Sun.

Let the Mould be dug away; and when the Place is cleared a Spade deep, let as much old Dung be thrown in as will cover the Bottom four Inches.

Let the Gardener tread this firmly down, and when he has levelled the Surface, throw in the Mould ten Inches thick.

On the Surface of the Bed thus finiſh'd, let him draw Lines lengthways and acroſs five Inches diſtant, and in the Centre of every Square ſet one Plant. Let the Earth be well cloſed about them, and give a gentle Watering.

Let a Piece of Canvaſs or Matting be drawn over the Bed, ſupported by Hoops to ſhade the Plants till they are very well rooted; and they will after that require only the common Care of Weeding and Watering.

This is a Particular uſually neglected, and to that is owing the Hazard of bringing the young Plants to Good: I have ſcarce ever known one fail in this Way of Regulation; and when it is omitted, and they receive a Check at firſt, they are often ſtunted and ſpoiled even though they get over it; or at the beſt, it takes off from the Strength and Beauty of the firſt Year's Flower; and the Plant being judged by that, is rejected.

As the Seaſon advances in Heat, and the Showers are few, the Plants of any Value will require careful Aſſiſtance in that Reſpect; and moſt of all thoſe in Pots. This let the Gardener remember as an everlaſting Rule, that though potted Plants bear leſs Water at a Time than thoſe in the full Ground, they require it oftener.

The Rains which ſink into the Ground are not evaporated for a conſiderable Time; and in the drieſt Weather, while the Surface of the Mould is parch'd, they uſually afford Nouriſhment to the Roots at more Depth; but it is not ſo in the confined ſmall Quantity that is kept in a Pot; it dries ſoon, and it has no Refreſhment from below, therefore let the Gardener give it the more by Hand; and when the Plants are in Bud, let him water them all over.

This muſt be done more carefully when they are in full Flower, and the beſt Method at that Time is to drive the little Streams of Water in among the Branches and Leaves, and let it then fall to the Mould, but not to throw on any ſo high as the Flowers, leſt lodging among their Petals it damage them.

Once in two Days let the Gardener continue his Care in gathering the Seeds of his Flowers as they ripen, and lay them in a ſhady, dry, and airy Place to harden.

Some ſpread them in the Sun, but they follow Nature idly who do this. They will ſay, "That on the Plant they are left to the full "Sun:" but our intelligent Pupil will anſwer, "There is great Difference between the being "expoſed to the Sun upon the Stalk of a Plant "in the free Air, and laid upon a Floor or Table in the Sun-ſhine:" what he will thus anſwer from Reaſon, will be perfectly confirm'd by Experience; for thoſe Seeds which are dry'd in that Manner have not half their Vigour. The true Method in theſe Caſes, is the ripening of the Seed in the Sun, and drying it in the Shade.

Let the Gardener continue his Care of thoſe ſeedling Plants of the tenderer Kind, which are to take their Growth in the Stove. Thoſe which he has removed into larger Pots will require all his Care to ſhade and water them till they are rooted; and thoſe which are yet in the ſmall Pots, into which they were planted from the Seed-bed, muſt from Week to Week as they grow to a due Size, be tranſplanted and rooted afreſh with the ſame Care.

In the removing of theſe from ſmaller to larger Pots, Care muſt be taken to bring the whole Ball of Earth with them, and to trim round the extream Fibres which appear on the Outſide of it; then the Ball muſt be ſet upright in the larger Pot, upon a ſmall Quantity of the Compoſt laid in for that Purpoſe, and the reſt filled in till it is brought up half an Inch above the Surface of the original Quantity, or Ball from the ſmaller Pot; after this ſhading and watering do all the Buſineſs.

While theſe are preparing to take their Growth in the Stove, thoſe which are there already muſt be refreſh'd with as much Air as can be ſafely admitted.

Theſe Plants bear the Cloſeneſs of the Stove much better in Winter than they do in Summer; and this is happily a Seaſon, when the common Air of our unfavourable Climate may beſt be admitted to them.

The hotteſt Days muſt be choſen for giving the Plants this Advantage, and thoſe in which there is leaſt Wind.

In ſuch a calm, cloſe, ſultry Day, let as much

Air be let in as will refreſh the Plants conſtantly; and let the Gardener remember, that if his Stove be ſmall, he muſt ſhade the Glaſſes in the Middle of the hotteſt Days; for otherwiſe the Sun's Heat admitted through them, will abſolutely ſcorch the Plants, as well as burn up the Mould in the Pots.

Let the Pine-apple Plants which are expected to produce Fruit the next Seaſon, be this Week removed into the Pots in which they are to remain.

The common Practice is to neglect this to a longer Time; but the ſooner they are fix'd in theſe Pots, and the Check of removing is over, the better. They will thus have Time to eſtabliſh themſelves well in the Mould before the Effort of Nature comes on for their Fruit; and that will for this Reaſon when it comes, be continued uninterrupted: whereas when the Removal is delay'd, the ſhooting of new Fibres from the Root, and the Formation of the Bud of the Fruit are brought on together; and the Vigour which ſhould anſwer for one of theſe Operations, is weaken'd by being divided between both, and neither is done perfectly.

Theſe early Conſiderations are either unknown or neglected by the Generality of Gardeners, and this occaſions the great Failure we ſee in the ſeveral capital Operations. Five Plants in ſix of the Pine-apple produce poor, ſmall, and ill-taſted Fruit, becauſe they were ſhifted too late in the Seaſon.

The Error has been ſo long paſt, that the Gardener forgets where it lies; but if he would arrive at Perfection in his Art, there is no way but by foreſeeing every Thing in the Courſe of the Growth, at the very Time of putting the Seed into the Ground, or of making the firſt Plantation of whatever Kind.

SECT. II.

The Care of the SEMINARY, *for this Week.*

LET the careful Gardener ſtill continue budding the later Kinds of Fruit Trees; and let him this Week look with a careful Eye over thoſe which have been budded three Weeks or a Month before. The Bandages of theſe muſt be looſen'd, that the Sap may have free Courſe.

Let him look carefully to the Seed-beds of young Stocks for future budding. They muſt be very well weeded and water'd; and as the Plants advance in Height, this Care muſt be increaſed.

It is a great Article in their future Riſe to give them their firſt Growth well; and if they be neglected at this Time, they will come up very poorly: Weeds, and a parching Sun will choak and burn them; and they will be ſtunted in ſuch manner, as never to recover it afterwards.

The free Growth is a great Article in theſe Stocks; and like other Effects of early Error, it is often prevented by a Neglect at this Time. The Gardener finds his Stocks do not anſwer to their Kinds, but it is too late when he perceives the Error: it ſhould be prevented now.

The Drought will be every where hurtful, and ſhould be every where guarded againſt, by ſhading the more tenderer Kinds: watering, where that can be done with any tolerable Convenience; and in the larger Growths which ſtand regular and diſtant, by digging between the Rows: this anſwers the Purpoſe at once of refreſhing the Earth, and deſtroying the Weeds; and however particular or ſtrange it may appear to the inexperienced, 'tis certain in fact, that the breaking the Surface of the Ground, anſwers in a great meaſure the Purpoſe of Watering, by making it receive and detain thoſe Dews, which run off, or evaporate from a hard Surface; without affording the leaſt Nouriſhment to the Plants.

This Week make up a Bed in ſome open Part of the Seminary for tranſplanting thoſe double Cowſlip and Primroſe Plants we directed to be raiſed from Seed.

Let the Bed be of freſh Paſture Mould, without any Addition whatſoever; and let the Plants be ſet at four Inches Diſtance, cloſing the Earth well about their Roots.

They muſt have a good Watering when they are planted, and another every other Evening, unleſs Showers naturally fall.

They will require the Shade of a Reed-hedge from the full Sun till they are rooted; and after this they muſt be frequently weeded, and in dry Seaſons watered.

They may take their firſt flowering in this Bed; and as it comes on in early Spring, they will blow much ſtronger for being planted now than if it had been deferred to *October*; or if it had been repeated at that Seaſon: for there would then have happen'd a Check from the Removal, at the Time when the Bud for Flower was forming.

This is a Practice not underſtood by the common Gardener; but it depends upon the ſame Principle with the ſhifting the Auricula's at this Seaſon.

The Floriſt knows the Expediency of that Practice; and he may be aſſured, the ſame Rule holds good in regard to theſe Plants: the Primroſe, Cowſlip, and Auricula, are nearly allied in Nature; and as their Time of flowering is the ſame, or little different: their Buds are formed for that Purpoſe at or near the ſame Period. On this depends the Propriety of the Practice we have named.

There will alſo reſult another Benefit from the Uſe of common Paſture Earth at this Time of planting them, which is that when they come afterwards to be ſorted, and the beſt Plants removed into a Bed of Compoſt; the Richneſs of that Ground in Compariſon with the Poorneſs of plain Paſture Earth, will feed them in a fuller Manner, and enlarge, and greatly improve the Flowers.

Theſe Things done among the particular Kinds, let the Gardener conclude the Work of the preſent Week in this Quarter, by a thorough weeding in every Part of the Ground.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THE Care of the ripening Fruit demands at this Time all the Gardener's Attention. Every Morning and Evening, and after every Shower, let him look after Snails; and every Day let him renew the Sugar and Water in thoſe Vials we direct him to hang upon every Part of the Trees.

It will be proper alſo for him to hang up Scarecrows of Feathers, or Wings of Birds, or entire Birds with the Entrails taken out, to fright away the Devourers of that Kind; and if they are, in ſpite of this, troubleſome, he muſt place Lime Twigs about the Trees, and now and then fright them away by Diſcharges of a Piſtol.

They do more Hurt than is imagined; they peck and wound ten of the Fruit for one they eat; and wherever their Beaks have made the Way, the leſſer Devourers are ſure to follow.

At the ſame Time that theſe Methods are taken to prevent Deſtruction by Inſects, and other Devourers, Care muſt be had that no Accident prevent the ripening of what his proper thinning, and ſubſequent Protection, have kept upon the Tree.

To ripen well, the Fruit requires a due Degree of Shade and Shelter, but nothing more: too much or too little Sun will be equally hurtful.

The Gardener has taken Care in the Pruning and Management of the Branches, that as much Wood, and as many Leaves are left on as will anſwer this needful Purpoſe: but let him now ſee that they keep in their Places; where a Branch has blown out of its right Situation, by the ſtarting of the Nails which held it to the Wall, or any other Violence, it leaves ſome Part without the Shade its Leaves were deſtined to ſupply, and gives too much cover to ſome other.

This muſt be reduced to Order: and if any Foulneſs appear upon the Tree, or any Inſects of the Caterpillar Kind upon the Leaves, they muſt be pick'd off.

In many Caſes it is neceſſary to bud the Fruit Trees after they are brought into the Garden; and when this has been done, there will require a particular Attention to them.

The Gardener knows how apt budded Stocks are to ſhoot from below; and that this is always hurtful, as thoſe Shoots can be of no Service, and as they rob the Bud of Nouriſhment: this Accident will be much more likely to happen to Trees budded in their Place in the Garden; where the Soil is better than in Nurſeries, and where the Trees have more Room, and more Opportunities of quick Growth.

Theſe Shoots muſt be carefully taken off, that all this Nouriſhment may go to the Buds; and the ſame Methods taken to promote the free Growth of theſe, as of all other Trees in the Garden, by keeping down Weeds, and ſtirring the Surface of the Ground.

SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

THIS Week let the Gardener get ſome Spinach Seed into the Ground, for a Supply in Winter, and till the Spring Spinach comes. The hardier Kind is fitteſt for this Purpoſe, and this is the Burdock Spinach, or large rough ſeeded Kind.

Some Piece of Ground where an early Crop has been cleared off, will very well anſwer this Purpoſe.

We ordered laſt Week the Onions to be taken up, and no part of the Ground will better anſwer the Purpoſe, than where that ſlight rooted Crop has ſtood. A little old and well rotted Dung ſhould be ſtrewed over the Ground, well mixed with the Mould in the digging, and the Surface levelled.

Let the Gardener ſee that his Seed be freſh, and well ripened; for Spinach is a Plant very apt to fail when any due Care is neglected in the ſowing. 'Tis beſt to ſow Seeds of his own ſaving, for 'tis hard depending upon what are kept for Sale: a cloudy Day ſhould be choſen when there is little Wind, and the Seed ſprinkled thick, eſpecially if there be any Doubt of its Freſhneſs.

If no Rain happen in two or three Days after the ſowing, the Piece muſt be watered; and this muſt be repeated once in three or four Days, if no Rain comes, till the Plants appear.

When the Plants ſhew ſome Strength they ſhould be thin'd, and cleared from Weeds: one Operation will very well anſwer both theſe Purpoſes, and it is beſt done by Hand: the common Way is with the Hoe, but this does the Office in a poor and ſlovenly Manner; nothing would be more eaſy than to do it the other perfect Way.

If the Spinach be ſown on Beds four Foot wide, with Alleys between, the whole may be performed by Hand with Eaſe and Expedition: all Weeds ſhould be taken up, and the ſtrongeſt Plants of the Spinach left at five Inches Diſtance. After this the Beds ſhould have a good Watering, and the reſt of the Growth will go on with Vigour.

Thus it may ſtand without farther Care a Month. It will require then to be clean'd again in the ſame Manner, and after that to be weeded once more before Winter. The Weeds would ſtarve and choak it if ſuffered to remain to take any conſiderable Growth, for Spinach is a weak Crop at firſt.

In the Middle of *October* the Gatherings may be begun, and the Plants will furniſh good Crops all Winter. They do not naturally run up to Stalk at this Seaſon; but Nature ſpends all her Strength in furniſhing good Leaves.

The Method of Gathering is to be founded on this: the Plants are not to be torn up, but their large Leaves taken off; and as thoſe in the Centre are left, they will grow out upon the others being taken away. Thus there will be a Succeſſion from Time to Time; and the Bed being proportioned to the Demand, there will be a Supply all the Seaſon.

In Spring theſe Plants will run up to Stalk. A proper Number are then to be left for Seed, and the reſt pulled up. This Seed muſt be ſuffered to ripen perfectly, and then be well dry'd and ſown, as we have directed, the following *Auguſt*.

The Kinds of Spinach for Spring and Summer Uſe are different from theſe, and require another Management. This we have given before.

The whole Kitchen Ground will require at this Time to be carefully weeded, and the young Crops muſt have frequent Waterings.

Caterpillars and Snails muſt be pick'd off the Plants, or deſtroy'd in their lurking Places; and the Ground clear'd as faſt as the Crops go off.

E D E N:

A

Compleat Body of Gardening.

* * *

NUMBER XLVII.

For the ſecond Week in *AUGUST.*

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SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. OVAL LEAVED CLEMATIS.

Auguſt.

Pl. 47. Fig. 1.

IF Singularity can demand Attention, this Plant claims no ſmall Share of it; by an upright ridged ſhruby Growth, with Flowers perfectly unlike thoſe of the Generality of other Plants, firm in the Petals, and in the Centre downy. Its eaſy Culture adds ſomething to the Merit, and its hardy Permanence.

The Authors who have written on Plants, have in general named it; and moſt under the ſame Title *Clematis*: ſome have written it *Clematitis.* They have added *Pannonica* from its Country, and *Cærulea* from the Colour of the Flower; *Hungarian* and blue *Clematis*; and ſome *ſurrecta*, and *erecta* from its upright Growth, moſt of the other Kinds being Climbers, as the original Name expreſſes.

LINNÆUS continues the Name *Clematis* to this Genus, under which he comprehends alſo the *Flammula* and *Viticella* of other Authors; and he adds as the Diſtinction of this Species, *foliis ſimplicibus, ovato-lanceolatis:* Clematis with undivided Leaves, of an oval but ſomewhat lanceolated Form.

The Roots are numerous, long and ſpreading; yellowiſh on the outer Part, and ſtrengthened with a white woody Pith within.

The Stalks are numerous, two or three Foot high; firm, fluted, and divided into ſome few Branches.

Auguſt.

The ground Colour is a pale green, and the Ridges between the Hollows are ſtained with purple.

The whole Stalk is ridged in the Manner of a Piece of Wire, and is a little hairy.

The Leaves ſtand two at a Joint, and the Stalk ſwells out into a thick Knot at their Baſe. They have no Footſtalks; and they are large, of an oval Shape, a firm Subſtance, and a dull green Colour, with very high longitudinal Ribs on the Back or under Part, and hairy at the Edges.

The Flowers terminate the Stalk and Branches, and they are very beautiful; their Colour is a perfect violet blue, and they hang drooping. they are large, and each is formed of four Petals, oblong and ſharp pointed; waved a little at the Edges, high rib'd, and lightly hairy; and in the Centre ſtands a thick downy Tuft of a whitiſh Colour.

The Flower in this Plant has no Cup, but Nature makes an excellent Proviſion for it while in the Growth. The Stalk which ſupports it has always two Leaves placed at a ſmall Diſtance below it when full blown; but when in the Bud, theſe inſtead of ſpreading oppoſite as they do

Auguſt. do afterwards, point upward; and being hollowed in the Manner of the Halves of a Nutſhell, cloſe at the Edges. Theſe appear Buds; and the young Botaniſt would be very excuſeable if he ſuppoſed them the two Leaves of a proper Cup, on ſeparating them.

The Bud is found naked, and erect in the Hollow; as it grows toward Maturity its Footſtalk lengthens, the Leaves ſeparate and fall horizontally, and ſoon after the Top of the Stalk droops; and the Flower obtaining its due Bigneſs, opens at the four Points, and diſcloſes that ſingular Head or Tuft of downy Matter within.

This is formed of numerous ſilky Filaments, to which adhere the Buttons; and in the Centre of theſe ſtands a Cluſter of pointed Styles, with ſimple Heads riſing from the Rudiments of ſo many Seeds.

The Filaments are white and hairy, the Buttons long and furrow'd.

The Styles are white and ſilvery; and their Heads alſo white, but without that Gloſs. When the Flower is fallen, the Seeds appear in a naked Cluſter furniſhed with the Styles.

The Filaments adhere to the Receptacle, and this with their Number places it among the *Polyandria*; the numerous Styles among the *Polyginia*.

Culture of this CLEMATIS.

It is a Native of *Hungary*, and many other of the northern Parts of *Europe*, and thrives beſt wild in a firm tough Soil, and where there is ſome little Shade. This we ſhould imitate and improve in its Culture in the Garden.

Let the Compoſt in which it is raiſed be equal Parts of good Garden Mould, and firm loamy Earth from a Paſture; and the Place ſome Part of the Ground where there is a Shelter from the Noon-ſun, and from cold Winds. Auguſt.

The uſual Manner of propagating it is by parting the Roots; and with due Attention afterwards, the beſt Gardener may be allowed to do no more.

The Seeds are long before they ſhoot, and the Plants do not flower the firſt Year, neither are there any Advantages of Conſequence from this Practice. The Plants from Seed are uſually bolder and more vigorous, and their Flowers better coloured than ordinary for the firſt Year; but if the parted Roots be managed well, the Plants raiſed from them will keep their full Perfection; while the others, after the firſt Bloom, will loſe their Superiority, and come to an exact Equality with the Reſt.

The Time for parting the Roots is *October*, and they muſt then be planted at two Foot and a half Diſtance, and covered two Inches.

Every Year at the ſame Seaſon they muſt be taken up, and reduced to a proper Bigneſs, and planted again in the ſame Place, but in a freſh Parcel of a Compoſt.

After theſe Plantings it will be proper to give once or twice a little Water, and at all Times to allow them the common Advantage of being kept clear from Weeds.

As there is no Deſign at any Time of ſaving Seeds, the Flowers ſhould be picked off as they decay; and by this Means, and the Aſſiſtance of now and then a Watering in dry Weather, there will be a Succeſſion of Bloom throughout the whole Summer; very ſingular, and to every Eye very pleaſing.

2. ALOPECUROIDE ASTRAGALUS.

Pl. 47. Fig. 2. There is ſcarce ſo ſingular a Plant in our Gardens as that we here preſent the Reader; and though it can by no means come under the Denomination of a Flower, few are more elegant. Its whole Form pleaſes the Eye, and its Hardyneſs and eaſy Culture are a farther Recommendation.

The late Writers on Botany, in general, have named it. TOURNEFORT calls it *Aſtragalus alpinus procerior alopecuroides:* tall Alpine Fox-tail Aſtragalus. — LINNÆUS, *Aſtragalus cauleſcens ſpicis cylindricis ſubſeſſilibus calycibus leguminibuſque lanatis:* upright Aſtragalus with cylindrick Spikes of Flowers, almoſt without Footſtalks, and woolly Cups and Pods.

The Root is fibrous and ſpreads far.

The Stalk is round, thick, upright, hairy, and a Yard high; of a pale green, not branched, jointed, bent a little from Joint to Joint, and hollow.

The Leaves are extreamly ſingular and beautiful. One ſtands at each Joint of the Stalk, and they are of the winged, or pinnated Kind, a Foot in Length; and narrow. The Rib is pale, and covered with a long woolly Down.

The Pinnæ are about four and twenty Pair on each, with an odd one at the End: they are oblong, moderately broad, undivided, and of a pale green, covered with the ſame woolly Hairs which overſpread the reſt of the Plant; and the Ribs are beautifully twiſted, or waved in their Courſe.

The Flowers are moderately large and yellow, and they are cluſtered together in very elegant thick Heads: theſe are of the Bigneſs of a Hen's Egg, and they appear much of that Form at firſt; but as the upper Flowers open, they become cylindrick. They are placed in the Boſoms of the Leaves, almoſt without Footſtalks, and their Cups are woolly as the reſt of the Plant. The woolly Matter upon theſe is white, very long, and thick ſet, and adds not a little to the Beauty of the Tuft: the pale yellow Flowers appearing with a particular Luſtre as they break out from this ſilvery Bed.

The Leaves ſtand at conſiderable Diſtances, and theſe noble Heads of Flowers riſe erect from their Boſoms, and run up cloſe to the Stalk: the whole Plant has a ſingular but not unpleaſing Smell.

The Flowers are of the *Papilionaceous* Kind: each is placed in a tubular bloated Cup, formed of one Piece, and terminated by five narrow Points; the two uppermoſt of which ſtand wider aſunder than the others. Theſe Points are of a fine pale green, the reſt of the Cup is covered thick with the woolly Matter.

The Vexillum of the Flower is very large, oval, nipped at the Top, and turned back at the Sides: the Alæ and Carina ſtand together in a little Body defended by the Vexillum; they are of equal Length, or nearly, and the Alæ are moderately broad and obtuſe; the Carina is turned upward, and nipped.

The Filaments are ten, and arranged in two Bodies; nine form a kind of Cylinder with their united Baſes, and ſtand ſeparate only at the Top; the other one is looſe, and this lies over an opening left at the Top of the Body of the others.

The Buttons are roundiſh, and orange coloured.

The Rudiment of the Seed-veſſel is ſingle, and cylindrick; from this riſes a ſmall tubulated Style crowned with an obtuſe Head.

The Seed-veſſel is an oblong Pod with ſeveral Seeds. The Cells bent one way. The two Aſſortments of Filaments ſhew it one of the *Diadelphia* of Linnæus.

Culture of this Astragalus.

The Plant is a Native of ſeveral Parts of *Europe*, and the Seeds of it have lately been received from *Siberia.* It loves a deep rich Mould, and will bear any Expoſure in our Gardens.

The Seeds ripen very well with us, and the beſt Manner of raiſing the Plant is this:

Dig up in the Nurſery a Bed of good Mould; and in the latter End of *March* level the Surface, and ſcatter on ſome of the Seeds ſaved from a ſtrong Plant, and kept dry during the Winter.

When the Plants have ſome little Strength, take up the weakeſt, and leave the others at eight Inches Diſtance. Thus let them ſtand till *October*, only keeping the Bed clear from Weeds, and in dry Weather watering it.

Then let ſome deep Holes be opened in different Parts of the Borders where the Plant is intended to flower; and let the Plants be taken up to the full Depth of their Roots, and brought in with a Ball of their own Earth.

Let them be planted with Care, and the Mould be ſettled about them by a moderate Watering. Thus they will root well during the Winter, and flower the ſucceeding Year with great Strength. They ſhould not be tied up to Sticks when they riſe to Stalk, for their Stem is of ſufficient Strength, and there is a pleaſing Wildneſs in their free Manner of growing.

3. ORIENTAL BETONY.

Pl. 47. Fig. 3. This is another of thoſe Plants which Curioſity, more than a Regard to their Beauty, has brought from remote Climates into our Gardens. But as it requires no great Trouble in the Culture, 'tis very well worthy its Place among the reſt.

The late Authors, in general, have deſcribed it, and there is ſo much of the Betony Form about the Plant, that all have referred it to that Genus. They call it *oriental Betony*; and Tournefort in particular, *Betonica orientalis anguſtiſſimo & longiſſimo folio ſpica florum craſſiori:* thick ſpiked Betony of the Eaſt, with very long and very narrow Leaves.

Linnæus and Van Royen characteriſe it much more properly, *Betonica ſpica integra, corollarum lacinia labii intermedia integerrima:* entire ſpiked Betony with the middle Segment of the Lip of the Flower undivided.

The Root is compoſed of numerous thick Fibres connected to a large Head.

The Leaves riſe in great Number, and have long Footſtalks; they are long and narrow, largeſt at the Baſe, ſmaller all the way to the Point; deeply indented at the Edges, and of a light green.

The Stalks are ſquare, thick, very robuſt, and a Foot and a half high; of a pale green, and a little hairy.

The Leaves on theſe are placed in Pairs, and at conſiderable Diſtances: they alſo have Footſtalks, and are like thoſe from the Root, long, narrow, and notch'd at the Edges, ſharp pointed, and of a pale green.

A large Spike of Flowers terminates each Stalk, and there ſtand others in the Boſoms of the Leaves: they are ſmall, but in the Cluſters very conſpicuous; of the labiated Form, and of a delicate red with a purpliſh Tinct.

The Cup is formed of one Piece, tubular, divided into five long, ſmall, and ſharp Points, and ariſtated.

The Flower is formed of a ſingle Petal, tubular at the Baſe, and bent; and at the Top divided into two Lips. The upper Lip is obtuſe, erect, plain, and undivided. The lower is cut into three Segments, and the middle one of theſe is entire; this is ſingular to the Species of Betony here deſcribed; in all the others there is a Nick at its End.

Auguſt. In the Body of the Flower are placed four Filaments, two longer and two ſhorter, with roundiſh Buttons; and amidſt theſe a ſimple Style ſplit into two Parts at the Head.

The Seeds follow naked, the Cup ſerving as their Defence, and they are four in Number.

The Claſs to which this Plant belongs, is found in the Diſproportion of the Filaments: the two longer than the others ſhew it is one of the *Didynamia:* and the Seeds ſtanding naked, ſhew it alſo one of *Gymnoſpermia.*

Culture of this BETONY.

The Plant is a Native of the Eaſt, but bears our Winters in the open Air. It loves a deep Soil; and no Compoſt ſuits it better than the common Garden Mould. As it is a perennial fibrous rooted Plant, it may be eaſily propagated by parting the Roots in Autumn, but the beſt Method is to raiſe it from Seed. This ripens well with us, and the Plants thus obtained, are always the handſomeſt, and moſt regular in their Growth. Auguſt.

The Method is this. Save Seeds from a ſtrong and hearty Plant, and when they have been well dried, and carefully preſerved through Winter, ſow them in the Beginning of *April* upon a Piece of common Ground in the Nurſery.

When the Plants are grown ſtrong enough to remove, take up as many of them as are intended to be raiſed, and plant them at a Foot Diſtance in a Border of rich Mould; there let them ſtand all the Remainder of the Summer, and through Winter: the next Year they will flower.

In Autumn they ſhould be taken up, and planted afreſh in a new Quantity of Mould, and thus they will continue in Beauty many Years; but the beſt Method is to raiſe a new Stock frequently from Seed; for the Plant never is ſo perfect as the firſt Year of its flowering.

4. LACINIATED RUDBECKIA.

Pl. 47. Fig. 4. The Gardener is ſcarce well acquainted with the Name *Rudbeckia*, but the Plant is not ſtrange to him. Ever ſince we have been familiar with the *American Botany*, the ſpecious and conſpicuous Aſpect of this Herb, has given it a Place in our Gardens.

The earlier Writers could not be acquainted with it, for they knew nothing of its native Country; but to thoſe who have written ſince, it is very familiar. They have all deſcribed it, but under a ſtrange Variety of Names; *Cornutus* made it an *Aconite*, adding, *Helianthemum Canadenſe:* the Canada Sunflowered Aconite.

C. BAUHINE conſidered it as a *Doronicum*, and diſtinguiſhed it by its Country, and the Jaggedneſs of its Leaves, *Doronicum Americanum lacineato folio.* — MORISON calls it an *American Chryſanthemum*, adding, *perenne*; and *foliis diviſis:* divided leaved *American Corn Marygold*; others have named it *Obeliſcotheca.*

LINNÆUS diſcarding all theſe as barbarous or ill choſen Terms, eternalized *Rudbeck*, by calling the conſpicuous Genus after him: he adds as the Diſtinction of this Species, *foliis compoſitis laciniatis:* Rudbeckia with compoſite jagged Leaves.

The Root is thick, and hung with many long and large Fibres.

The Stalk is firm, upright, and five Foot high; rounded, but deeply rib'd, and of a ſtrong green.

The Leaves ſtand irregularly, at ſmall Diſtances, and they are large.

Their Colour is a deep green, and they are divided into three principal Parts, and thoſe again deeply cut and jagged. As the whole Leaf is large, ſo are all the Parts; and when theſe Segments are notched, as they often are in the larger Leaves, thoſe Indentings are vaſt, open, and diſtant. The whole Plant has a ſlight Hairyneſs.

The Flowers are numerous, large and elegant: they terminate the main Stalk, and the many Branches from the Boſom of the Leaves, they are of the compoſite radiated Kind, large and very beautiful. They are when full open about three Inches and a half in Diameter; and are compoſed of numerous, long, yellow Rays, and a Multitude of Floſcules arranged in a kind of Cone, and opening in regular Succeſſion from the Bottom.

The Cup is compoſed of ſeveral Leaves in a double, triple, or quadruple Series; they are oblong, broad, and of a fine green.

LINNÆUS allows only twelve in the generical Character of *Rudbeckia*, but it is common to ſee in this Species more than thirty. Nor are they confined as he expreſſes it, to two regular Series; beſide this general Cup there is to each of the Floſcules a kind of ſmall Cup, or regular ſupporting Rim from the Receptacle.

Immediately within the general Cup are placed the Rays; theſe are the Female Floſcules, and within them riſe the Cone of tubular Floſcules, which have both Male and Female Organs, and are thence called Hermaphrodite.

The Rays are fourteen uſually, ſometimes more, rarely leſs. — LINNÆUS ſays twelve, but Nature uſually exceeds that Account: they are very long, moderately broad; they are nip'd at the End, and they naturally hang down. Their Colour is a very ſtrong and fine yellow, and they are uneven on the Surface, rib'd and furrow'd.

The Floſcules at firſt appear in form of ſo many cloſe green Buttons ranged in a regular Manner. The firſt that open are a Ring or Series juſt

Pl. 47.

1
val leav'd Clematis
Alopecuroide Astragalus
2
3
riental Betony
4
Laciniated Rudbeckia
5
Siberian Larkspur
6
many Spiked Veronica

J. Hill del et Sculp.

juſt above the Rays, and after this they burſt out in Succeſſion. When fully opened they are hollow, ſomewhat funnel-ſhaped, rib'd on the Outſide, and divided into five Parts at the Rim.

From the Hollow of theſe Floſcules burſt five Filaments, with cylindrick Buttons; and after theſe have ſhewn themſelves ſome Time, appears a ſimple Style from the Rudiment of the Seed, whoſe Head ſplits into two Parts, and theſe turn back.

When the Flowers are fallen appears a Head of naked Seeds: this is of a conic Form, and is ſupported by the common Cup.

The Seeds are fixed to a conic Receptacle, and ſeparated by little Scales; and each is crowned by that ſmall Margin which firſt appeared upon its Rudiment, as a Cup of the Floſcule, and is now evidently dented in four Places. The Figure of each Seed is an oblong ſquare.

The Student has been already acquainted, that the Coaleſcence of the Buttons is the Character of the *Syngeneſious* Claſs, which includes the compoſite flowered Kinds: they form a kind of Cylinder in each Floſcule of this Plant, and refer it evidently to that Place in the LINNÆAN Syſtem.

The Rays, or Female Floſcules, riſe from a Rudiment of a Seed, as the others; but this has no Style, and theſe Rudiments are abortive.

The tubulous Flowers in the Diſk only produce Seeds, and hence the Subdiſtinction under which this Plant ſtands in the LINNÆAN Syſtem, is that of *Polygamia Fruſtranea*.

Culture of this RUDBECKIA.

The Plant is a perennial, Native of *North America*, and lives very freely in the open Borders of our Gardens with little Trouble.

The Gardener is induced by this, as in many other Inſtances, to allow it too little: he neglects it becauſe it will live in ſpite of his Neglect; but with due Care it will be much more beautiful.

The common Mould of the Garden very well ſupports it; and the parted Roots grow freely: but the Way to obtain fine Plants is to ſow the Seeds.

This ſhould be done early in Spring, on a Bed of light Mould: the Plants ſhould be removed in Autumn into the Places where they are intended to flower, and they ſhould be allowed a Yard clear Space about them.

In this Manner from each Root there will riſe four or more Stalks; which together, will furniſh for all the latter End of Summer, a Succeſſion of very ſpecious and very laſting Flowers.

5. SIBERIAN LARKSPUR.

Pl. 47. Fig. 5. This is another tall and ſpecious Plant, ſufficiently hardy to live in the common Borders of a Garden, and worth any degree of Care, though it requires very little.

The Writers on Plants have been long acquainted with it, though they have placed it much amiſs in their Works.

The Gardener is to be told that this *Siberian Larkſpur*, which he underſtands as a new Acquiſition, was known to CLUSIUS, and to CASPAR BAUHINE.

The firſt of theſe calls it *Aconitum Lycoctonum flore delphinii Sileſiaci:* Wolfs-bane with the Sileſian Larkſpur Flower; and the latter, *Aconitum cæruleum hirſutum flore conſolidæ regalis:* blue hairy Aconite with a Larkſpur Flower.—GERARD and PARKINSON have alſo named it, and with the reſt, under the Addition of its having the Larkſpur Flower.

LINNÆUS refers it to that Genus; for in the Flowers we are to trace the Characters of Genera; and theſe Writers ſhould have known that whatſoever has a Larkſpur Flower is a Larkſpur.

He adds as the Diſtinction of the Species, *Nectariis diphyllis, labellis bifidis, apice barbatis foliis inciſis caule erecto:* upright Larkſpur with divided Leaves, and the Nectaria compoſed of two Leaves, the Lips ſplit and bearded at the Ends. A Name amply diſtinguiſhing it from all the other Kinds, as it deſcribes the peculiar Form of the Flower.

The Root is large, blackiſh, and hung with numerous dark ſoft Fibres.

The Stalk is ſix Foot high, ridged, tinged with purple, and a little hairy; hollow, and decorated with many Branches.

The Leaves are large, broad, and deeply divided into numerous Segments; and of a duſky green.

The Flowers crown the Tops of the Stalks, and all the Branches, and are of delicate purpliſh blue. They are diſpoſed in long and thick ſet Spikes, and naturally ſtand horizontally.

There is no abſolute Cup to the Flower; the Receptacle is naked at the Point of the Footſtalk; but a little below there riſe from the Footſtalk two ſlender Points, which aſſiſt in ſupporting the Petals in their Place.

We have obſerved that where there is no Cup, Nature gives ſomething uſually in its Place. Theſe purpliſh Points ſerve in that Manner here.

The Flower is compoſed of five Petals, unequal in Size, and unlike in Shape, but ſpreading regularly open.

The upper Petal is carried out behind into a kind of Horn, or Spur; long, tubular and obtuſe.

The other four make the lower Part of the Flower, and they are nearly equal in Size, oval and obtuſe.

In the Centre ſtands a moſt conſpicuous Nectarium, divided ſo deeply into two Parts, that it appears formed of two Leaves; and running out behind the whole Length of the tubular Horn of the Flower in which it is encloſed, and whoſe Hollow it fills: from its Under-part, where it joins to the Receptacle of the Flower, riſe two Lips, ſmall at the Baſe, ſplit at the Top, and brown; but elegantly fringed at the Points, and down the Neck, with golden criſped Hairs.

Under Cover of theſe Lips of the Nectarium riſe numerous Filaments: they are ſhort, broadeſt at the Baſe, curled, and crowned with ſmall brown Buttons.

In the Centre of theſe are three oval Rudiments, crowned with Styles of the Length of the Filaments, with ſimple Heads which turn back.

The Student tracing thoſe numerous Filaments to their Baſe, will find them inſerted on the Receptacle. This with their Number, ſhews the Plant to be one of the *Polyandria*, and the three Styles refer it to the *Trigynia*. The Flowers are each ſucceeded by three Seed-veſſels, with numerous angular Seeds.

As the Flower of the Monks-hood bears ſome external Reſemblance to that of the *Larkſpur*, and this Plant has been referred to that Genus by inaccurate Writers, it may be proper at once to imprint upon the Student's Mind the Diſtinction of thoſe two Genera.

The Monks-hood has the upper Petal of the Flower arched, the Larkſpur plain: and in the Monks-hood Flower are two ſimple crooked Nectaria, ſupported on little Footſtalks, whereas in this the Nectarium runs out behind into a Horn.

Culture of this LARKSPUR.

It is a Native of *Siberia*, and many other Places; and every where appears a robuſt and hardy Plant, tho' it does not obtain the full Stature we have allotted to it, unleſs by Culture.

The Roots encreaſe freely, and when parted in Autumn, there is no Difficulty in making them grow. But the Way to raiſe the Plant in Perfection is from Seed; and the Gardener by good Management may thus do himſelf much Credit, for he may produce a great deal of Variation in the Colour of the Flower.

Let the Seeds be ſaved from a robuſt Plant, and ſown in the Middle of *April* upon a Bed of freſh and fine Paſture Mould, and in a Part of the Nurſery which has ſome Shade.

When the Plants have ſome Strength, let them be thin'd, leaving only as many as it is intended to raiſe; and in Autumn let theſe be planted in very good Garden Mould. They will flower the next Year, and there will be ſome Variety of Colouring among the Flowers, purple, blue, and pale.

Let the fineſt coloured be marked for Seed, and leave but two or three Spikes upon the Plant to ripen them.

As theſe will be well ſupplied with Nouriſhment, they will be vigorous in their Growth; and they muſt be treated as the others.

In this Manner let the Gardener every other Year ſow a freſh Parcel. He will be ſure to have very fine Plants; and he will in four or five Sowings ſee an unexpected Variety.

Our Gardeners in this, as in many other Inſtances, ſhut the Door of Knowledge againſt themſelves: while they encreaſe the Plant only from parted Roots, they can have only the ſame Flowers.

When a Number of ſelect Roots have been thus produced, they muſt always be taken up in Autumn, and kept in due Compaſs: they muſt be planted in a new Part of the Garden; or have freſh Mould put into the Place where they grew before, and they will thus maintain their full original Perfection many Years, which otherwiſe they ſoon loſe: but even thus they will in Time grow faint; and in this, as on all other Occaſions, there ſhould be repeated Sowings.

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6. MANY SPIKED VERONICA.

Pl. 47. Fig. 6.

Few Plants deſerve more than this a Place in a Collection of the curious Kind: 'tis by no means a Flower. The Aſpect is that of a Weed, and in thoſe Parts of the World where it is native, it is moſt perfectly ſuch; but the Regularity of Growth, and Glory of its innumerable Flowers, never fail to attract the Eye even of the moſt incurious.

The Root is compoſed of numerous Fibres connected to a ſmall Head.

The Stalk is round, firm, ſlender, but perfectly erect; of a pale green, and four Foot high.

The Leaves are very numerous and elegant; their Diſpoſition is uncertain, but they are uſually placed alternately on the main Stalk, and in Pairs upon the young Shoots.

They have ſhort Footſtalks, and their Colour is a freſh and elegant green: they are oblong, moderately broad, ſharp pointed, and ſharply indented at the Edges: their Form and Colour give them a great deal of Beauty, but their Poſition more: they bend downward naturally, but this not from the Inſertion in manner of ſuch as flag from Heat, or want of Nouriſhment; but the Body of the Leaf bending, curls as it were downward, maintaining all that Aſpect of Strength and Vigour which is natural to Plants in a perfect Condition of Health.

The Flowers are innumerable: they crown the Top of the main Stalk, and the Shoots which riſe from the Boſoms of all the upper Leaves in extreamly long and elegant Spikes. They are placed cloſe together, and have very ſhort Footſtalks: their Colour is a delicate yet rich blue, with a conſiderable Tinge of purple.

It is not unuſual to ſee ten, twelve, or more of theſe Side Shoots upon a vigorous Plant. Every one terminated by its long Spike of Flowers; the whole forming a vaſt Cone (as every ſingle Spike does a ſmall one) with the Tops of the ſeveral Spikes gradually aſcending above one another, according to the Place of Inſertion of their Stalks.

Each Flower is placed in its ſeparate little Cup formed of one Piece, and divided at the Rim into four ſmall pointed Segments.

The Body of the Flower is formed of a ſingle Petal; tubular at the Baſe, and divided at the Rim into four oval and ſharp pointed Segments, of which the loweſt is narrower than the others.

In the Midſt of the Flower are placed two Filaments; theſe turn a little upwards, and are terminated by oblong Buttons, and between them is a ſingle ſmall Style with a ſimple Head.

We uſually ſee the Filaments, Style, and Buttons, of a Colour different from the Flower; but in this Plant they are often of the ſame fine blue with the Petals, and appear as a Part of the Body of the Flower.

This may at firſt View perhaps, perplex the Student who is ſeeking for them, to learn the Characters of the Plant; but it is a great Addition to the Beauty of the Flower; for by this Means one uniform and univerſal blue is ſpread over the Top of the Plant; and the Eye is pleaſed with the Particularity, though we do not conceive, unleſs by ſuch an Examination, what it is which occaſions it.

The two Filaments refer the Plant to the ſecond Claſs in the LINNÆAN Syſtem, the *Diandria*; and the ſingle Style to the *Monogynia.*

Culture of this VERONICA.

It is a hardy perennial Plant which will live with little Culture, but it will not attain the full Vigour and Beauty we have deſcribed, unleſs ſome Care be allowed to it.

The Seeds ripen very well with us; and tho' the parted Roots will grow freely, the Gardener ſhould remember that the beſt Way of propagating the Plant is by ſowing.

If the Method by parting the Roots is uſed, no particular Care is required; they muſt be planted in Autumn, and ſhould be allowed a rich and deep Mould.

The Seed ſaved in *July* or *Auguſt* ſhould be preſerved with Care till the following Spring; and then ſown in the Nurſery, on a Bed of freſh Paſture Earth.

When the Plants appear they ſhould be thin'd; and in *May* ſome of the moſt promiſing ſhould be taken up, and ſet at eight Inches aſunder in a ſecond Bed: in the Beginning of *September* they ſhould be planted out, where they are to remain, and ſhould be allowed a Yard Diſtance.

The Ground muſt be kept clear from Weeds between them, and they muſt be frequently watered till they are well rooted; and the remaining Summer, while they are taking their Growth, the Scope they are allowed, and the frequent refreſhing of the Ground, by breaking the Surface, and by watering well, give them the full Strength of their Nature: from one good Root there will riſe eight or ten Stalks, and all will be well nouriſhed, and covered at their Tops with Spikes of Flowers.

Every Autumn theſe Roots muſt be taken up, trim'd, and planted again in a freſh Part of the Garden, or at leaſt in a new Parcel of Mould; and let it be watched which of them produce Flowers with the blue Buttons and Filaments.

This is a Degeneracy from the Nature and Uſe of thoſe Parts; for they do not contain a true Farina, or impregnating Duſt; nor do ſuch Plants ſo well ripen Seeds, but it is an Effort of Nature toward doubling the Flower.

We have ſhewn on a former Occaſion, in what Manner the Filaments and Buttons become altered in the firſt Approaches toward Doubleneſs in Flowers; and this is the Effort Nature makes the ſame Way in the preſent Plant.

'Tis eaſy to conceive how noble an Appearance the numerous Spikes of theſe Flowers muſt make when the Petals were encreaſed; and ſomething very near that may be done, by marking thoſe Plants in which we ſee this Tendency to it; and favouring the Diſpoſition.

If Seeds ripen perfectly upon ſuch Plants, they ſhould be ſaved with great Care, and ſown under all poſſible Advantages, as we have directed for the raiſing other double Flowers; and beſide attempting the Improvement in a new Progeny, the old Roots themſelves ſhould be treated with particular Attention. They ſhould be allowed a richer Compoſt, and ſuffered to produce only a few Stalks, that thoſe may be better nouriſhed.

By this Means may be produced whole Spikes of Flowers without one coloured Button; and in the fineſt of them the Ends of the Filaments, and the Bodies of the Buttons, will be extended in Breadth till they reſemble Petals, and the Flower will have great additional Beauty. To what farther Degree this Improvement may be carried is yet undetermined. All the Plants of this Number are now in Flower in *Lee* and *Kennedy*'s Nurſery at *Hammerſmith.*

CHAP. II.

Care and Management of the Ground.

NOTHING adds ſo much Luſtre to Beauty as perfect Cleanlineſs; 'tis ſeen in a Garden as well as on all other Occaſions, and it is a Maxim to be regarded carefully at this Seaſon. The Borders are full of Flowers, and all looks gay and rich; the Gardener ſees the Reward of his long preceding Toil, therefore let him not fail to uſe every little Addition to ſet it before the Eye in its full Glory.

Let him begin by going round the Plants in Flower, triming each with an unwearied Hand. If an irregular Shoot appears let him take it off: Nature will return him an equal Quantity in a better Place, and he will gain by what in the immediate Act ſeems Loſs. If a decay'd Leaf be ſeen any where let it be taken off; and let no Flower remain which is paſt its full Glow of Beauty. We have given the Reaſon before.

As Birds will continue laying if her Eggs be remov'd, ſo the Plant will ſend out new Shoots for flowering when the firſt are taken off; but if theſe be left, they will ripen Seeds, which is Nature's ultimate End in all her Works; and as no more are needed, few will be produced; nor will thoſe few be well nouriſhed, while the great End of ripening Seeds is going on in other Parts of the Plant.

The flowering Plants being thus trimm'd, and kept in Order, let him go over the whole Ground between with a ſmall Hoe. If he have obſerv'd our Cautions in the preceeding Weeks, there cannot be any great Growth of Weeds to deſtroy now; but this Operation will cut up the firſt Shoots, of whatever Kind the inceſſant Labour of Nature may have ſcattered there; and at the ſame Time it will give an Air of Cleanneſs and of Culture to the Ground: nor is the Benefit confined to theſe Articles. The Mould will be more diſpoſed to receive and detain the Dews and Showers, by being thus broken, and the Plants will be ſeen with double Beauty becauſe of the clear Space between.

After this Care the next is that of watering; and all that remains beſide in regard to the flowering Plants is the Deſtruction of Inſects.

How the Waterings are to be conducted we have ſhewn already; and the more particular the Gardiner is in that Reſpect, the better will be the ſucceeding Bloom.

As to the Inſect Tribe they are as numerous in the Flower Garden at this Seaſon as in any other Part of the Ground, and they will be as miſchievous.

The Leaves are as uſeful and as neceſſary to many flowering Plants as to Fruit Trees, and they are expoſed to the ſame Ravage.

The Caterpillars are the moſt miſchievous of all; and they are, with tolerable Attention, the moſt eaſily deſtroyed. They will diſcover themſelves to be upon the Plants by the gnawn Parts of the Leaves; and as they have no better Way of hiding themſelves than by keeping at the back Part of the Leaves, it requires no more Trouble than the turning them up, to find the Devourers.

When little Inſects crowd upon the Tops or among the Buds, they muſt be attacked with Water ſtrongly impregnated with Tobacco Stalks and Soot: this is deſtructive of the Inſects without hurting the Plants; but there are ſome Kinds that are not affected by it. In this Caſe there is no Way but to cut off that Part of the Plant, and truſt to Nature for a new Supply.

This is a Seaſon at which there is nothing againſt a quick Growth but Want of Showers, and that the careful Gardiner can very well ſupply.

As ſoon as he has taken off ſo much of the Plant as was infected with the Vermin, let him break the Surface of the Mould all about it, and give a gentle watering: this let him repeat every Evening conſtantly; and let the Water be ſuch as has ſtood all Day in the Sun. He will thus give Vigour to the Roots, and a new Shoot or more will come in the Place of that he was neceſſitated to remove. The Plant will flower later than otherwiſe, but this, far from a Diſadvantage in the Summer Flowers, is often a Thing very deſirable.

The cutting off the Part of the Plant which is covered with Inſects, is right in another Reſpect, in that it prevents the Miſchief from ſpreading to the neighbouring Plants; which if any of them are in a weakly State, it is otherwiſe very apt to do.

This is the Remedy for that very troubleſome Malady of the Summer Plants; but a much better Method is to prevent it.

We have ſaid before that Inſects are found in general on the weakeſt Plants; and are the Effect of that Miſchief they are ſuppoſed to cauſe.

It will be found true in this Inſtance: of the tender Annuals now ſubject to be infected with them, they will be ſeen univerſally on the weakeſt Plants. We have ſhewn how difficult it is to remedy the Miſchief, therefore let the Gardiner provide in Time againſt it by good Culture of his Plants.

The Method of raiſing theſe tender Plants in Hot-Beds, and by Degrees removing them into the open Air, is very eaſy, and very well known; but 'tis practiſed in too careleſs and clumſy a Manner. To this is owing the ill State of the Plants; and to that the coming of theſe Inſects.

Whoever looks into the common Garden at this Time, will ſee ſtunted Chineſe Aſtas, and even the French Marygolds, weak, dragling, and half ſtarved: In thoſe Places where more Attention has been ſhewn them, they are in Proportion ſo much better: but we ſeldom ſee them in their due Perfection. Where they are weakeſt and worſt, they are conſtantly moſt infected with Inſects.

Let the Gardiner therefore, who ſees the Effects of Want of Care this Seaſon, guard againſt it in Time for the next, by bringing the Plants forward with due Care, allowing them as much Room as we have ordered, and which is much more than is commonly allotted in their ſeveral Beds; and finally when they are to be brought into the open Air, by opening a Hole ſufficiently large, and diſpoſing the Earth well about them. After this, frequent Waterings, and the Uſe of a Water that is of a due Temper are the great Articles.

I have ſeen Plants of all theſe Kinds ſtunted by Watering from a Pump, worſe than by Neglect of Watering; and whenever Nature has received a Check, the Juices are vitiated, and the Inſect Embryos hatch.

This general Care being taken, let our Gardiner look over ſuch particular Growths, as require a ſeparate Management.

The Layers of Carnations and Sweet Williams which were put early under the Mould, will by this Time be very forward; they muſt be water'd once in three Days, and the beſt Time is two Hours before Sun-ſet.

Oftener than this would keep the Ground too wet, but unleſs Showers prevent the Labour, thus often it ſhould always be done.

Few are aware how much the Succeſs of Layers depends upon keeping the Earth in a due and uniform Temper. To make it too wet at ſome Times, and leave it to be dried again at others, is to invite and promote the ſhooting of Fibres one Week, and another to leave them to be parched up and periſh: This is the common and unartful Method, but 'tis eaſy to ſee how wrong; and to this Miſmanagement is owing the Loſs of many of the Layers in the tenderer Kinds; and the Poorneſs of a great Part of thoſe which outlive the Miſchief.

The great Art in this Kind of Culture is to ſecure the Layer in its Place; and to give that Degree of Moiſture to the Mould, which will naturally make it ſtrike Root; and continue the ſame Temper in it till thoſe Fibres which have been ſo promoted to ſhoot, have attained Strength and Firmneſs.

The tender Shrubs which were inoculated laſt Month will require to have their Bandages now looſened, that the Sap may circulate freely.

At the ſame Time there ſhould be given a good free Watering, and this will add greatly to the Succeſs of the Bud; for the more freely the Juices are thrown up toward it when it is thus far fixed, the more certainly it will be united to the Stock.

The firm Union of the two is the great Article of the Gardiner's Care; and this is a Period at which it is more in his Power to promote it than at any other.

Theſe Articles are what inſure the Succeſs of Gardening; and theſe the practical People keep to themſelves, even when they moſt plauſibly affect to diſcover, for publick Benefit, the Secrets of their Art.

'Tis thus Gardening, under all the ſpecious Pretences of teaching it, is continued in the Hands of the mean and ignorant; and this has ſtopped the Progreſs of the Art in *England*.

What we have learned from Experience, and ſeen practiſed by the moſt ſucceſsful, we declare with Freedom; and the Gardener has thus an Opportunity of knowing the little manual Part; without which general Knowledge is of very limited Uſe.

The Layers of the fineſt Carnations will now be fit to take off. They muſt be planted in ſmall Pots, one Layer in each, and the Mould being gathered up carefully about them, they muſt be watered, and ſet in a ſhady Place, till they have taken good Root.

Every other Evening the Watering muſt be repeated, and when the Plants are very well rooted, they muſt be placed in a Situation open to the Morning Snn, and where there is a more free Air.

In the Beginning of *October* they muſt be ſet up to the Rim in the Ground, and ſheltered by a ſloping Reed-hedge, as we have directed for other tender Kinds: or if the old Method be followed, of defending them by a Hot-Bed Frame, a great deal of Care muſt be taken to allow them Air at all Times when the Days are mild. There is no Difficulty in defending them this Way from Froſts; but if they are drawn up weak, the Miſchief will never be well recovered.

The bulbous *Iris's* will now begin to fade in Leaf and Stalk, and the Gardener muſt take this Opportunity of removing them.

The withering of all that is above Ground ſhews the Roots to be in a State of Reſt, and it is at that Time they bear to be taken up and removed to a new Place, or refreſhed with new Compoſt.

The Opportunity muſt be ſeized now it is offered; for after a very ſhort Time, the Roots ſend out their Fibres for the ſucceeding Year, and at the ſame Time the Bud for the next Flower is form'd, and takes its ſlow but regular Increaſe: therefore if the Root be taken up, after this the Progreſs of Nature is impeded, and the Flower for the next Year is ſpoil'd.

If the Roots have ſtood but a little beyond the proper Time, this is all that happens on the Removal: but if the Time have been ſuffered to elapſe further, the Bud for flowering is deſtroyed by the Check of the Removal, and no Flowers are produced the next Year.

The Seedling *Polyanthus's* will be in a Condition to remove, and the ſame Method is to be obſerved which we directed for the Primroſe and Cowſlip Kinds on the ſame Occaſion. They muſt be ſet into the new Mould with great Care, and the Surface well cloſed about the Roots: after this they muſt be watered once in two Days, and the Gardener muſt keep a careful Eye over them, to ſee they continue as planted, and have the Roots well covered, and the Mould cloſed about their Heads.

The Auriculas which have been ſhifted into freſh Earth and ſhaded, muſt be watered from Time to Time, and the ſame Care taken that we have juſt directed for the laſt Kind, of keeping the Roots well covered, and the Mould regularly drawn about the Head.

The Seaſon for planting the Hyacinth Tulip, and Anemone Roots, will ſoon come on, and every Thing ſhould be prepared for it in Time.

The Beds will require to remain ſome Time to ſettle after they are made up; and even before this there ſhould be a laſt turning of the Heap of Compoſt: This is the proper Time for it.

Let the ſeveral Parcels be very well dry'd, broke, and turned over; and all Lumps rak'd out: let them be thrown up not in ſingle Heaps as at firſt, but in Ridges, and thus lie till the Time of making up the Beds.

S E C T. II.

The Care of the SEMINARY, for this Week.

LET a Piece of Ground under good Shade and Shelter be dug up this Week, and very well broke; and in this plant Slips of the double Roſe Campion.

Let them be well buried in the Mould except their Tops, and as ſoon as the whole Quantity is planted, let them have a gentle Watering, and repeat it every Evening till they are perfectly well rooted.

As this Kind rarely ripens Seed, and is a very elegant and valuable Plant, every Method ſhould be taken of propagating and increaſing it: the common Way is by parting the Roots in *October*, and this affords a very good Supply, as the Root in theſe Kinds increaſes very faſt; but this is an additional Method: it gives an Occaſion of producing a Number of good Plants at a different Seaſon; and the Increaſe of the Root is rather promoted than impeded by it.

If the Sun come at any Time of the Day upon the Bed where theſe Slips are planted, it muſt be kept off by a Reed-hedge, and the Plants thus ſhaded, ſhelter'd, and watered, will ſoon begin to root.

Toward the latter End of *September* they ſhould be taken up, and each planted in a ſeparate Pot. They ſhould again be ſhaded and carefully watered till they are well fixed in the new Mould, and it will be very proper to take them up with a large Ball of the firſt Mould about them.

They ſhould ſtand all Winter in a warm and well ſheltered Place oppoſite the Morning Sun; and early in the following Spring they ſhould be removed with Care into larger Pots, ſhaking them out of the firſt with the whole Ball of Earth, trimming the Roots which hang on the Surface with Sciſſars, and giving them a good Watering. In theſe they will flower in great Perfection the ſucceeding Summer.

This Week let the Gardener mark out the Ground where he propoſes to plant out his young flowering Shrubs, Foreſt, and Fruit Tree Stocks.

Let him begin now to prepare for them by trenching the Ground. Let it be dug deep, and broke fine; and by this Means it will be put in a Condition to receive the Rains and Dews with Advantage.

As the Trees which are planted in Nurſeries are to be removed afterwards into other Places, they ſhould by no means have too rich a Soil in this Place; for they would never come to any thing, if that into which they were removed, were to be poorer: as Dung is for this Reaſon forbidden in the Nurſery, there is the more Occaſion for giving the Soil in that Place all other Advantages.

Our Pupil has learned by this Time, that the two Articles which favour the Growth of Plants and Trees, are Richneſs and Freſhneſs of the Ground: as the firſt is forbidden by this plain Reaſon, the other ſhould be by all means encouraged.

A perfectly freſh Soil is that in which nothing has grown: and the Value and Advantage of this is very well known: the next Thing to an unexhauſted Earth is a well refreſhed one; and this is what we propoſe on the preſent Occaſion.

The Rains, Dews, Winds, and Sun, mellow, enrich, break, and moulder the Particles of the Earth thus turned up looſe to their Influence; and this is the Operation of Nature in reuniting, or refreſhing the Soil: let it be allowed in the full Extent to the Earth in the Nurſery, and nothing more will be required: the Way to do this is by trenching and turning up the Mould. This is what Mr. Tull, the Philoſophick Huſbandman, means, by Tillage anſwering the Purpoſe of Dung.

If all that he has advanced is not true, there is enough of Fact for the preſent Purpoſe: and although the ſame Field will not by this Method bear for ever ſucceſſive Crops of Wheat without Manure, the Ground of the Nurſery will in reality be made by this Means only, fit to receive and ſupport the ſeveral Kinds of Trees in perfect Order for their future Removals.

SECT. III.

POMONA, or the FRUIT-GARDEN.

EVERY Day let the Gardener repeat his Attendance and Care of the Fruit Trees: 'tis all that is required of him in this Part of the Ground, and the Effect will be of the greateſt Conſequence.

The Race of Inſects are innumerable: they encreaſe quick, and preſently over-run what is neglected: only what is well defended, and well watched, can eſcape them.

The Vials of Honey or Syrup for the Reception of Flies ſhould be repleniſhed every Day: every Morning and Evening the Gardener ſhould look for Snails and Slugs; and in the full Sun for Caterpillars.

Let him obſerve the Fruit and the Leaves; and when they begin to be hurt, let him look the more carefully for the Deſtroyers.

If any Tree appear in worſe Order than the others, let the Ground be turned up about the Roots, and watered; or if this do not appear ſufficient, let a little of ſome of the light Compoſts which are well enriched, and have lain a long Time in the Air, be ſprinkled over the Surface, and a good Watering be given to waſh in the Virtue.

The Raſpberry Beds will now require a particular Management, little regarded, or little underſtood by the Generality of Gardeners. They are in full Vigour; the Fruit is ſet upon them; and the Buſineſs is to ripen it well.

Let him remember what we have ſaid on different Occaſions, that a free Paſſage of Air all about Fruit, of whatever Kind, is the true and the only Way of ripening it well; and that at the Seaſon of ripening, a great deal of Nouriſhment is required, tho' Watering is prejudicial. Upon theſe two Points turns the Management of the Raſpberry Plantation at this Time.

Let the Branches be placed in Order, diſtant from one another, and kept from dangling; a few Stakes will be very uſeful for this Purpoſe, and the Gardener ſhould all the Time have in his Head the Conſtruction of an Eſpalier Hedge.

He is not expected on this Occaſion to practiſe the regular Method of making thoſe Hedges; but their original Inſtitution was of the ſame Nature with what is required here. The Boughs are to be kept free and clear from one another, and in a good Poſition. Where they are only ſtraggling and irregular, this Method will reduce all to order; where they are too thick, the Gardener muſt not fail to cut away ſome of them: 'tis better to ſacrifice a few of the Fruit than ſpoil the whole.

When the Shrubs are thus brought to order, let the Ground be dug up between the Rows, and the Mould broke very fine on the Surface. They will after this be ſeen to grow with new Vigour, and the Fruit will be of the true delicate Flavour.

The great Art is chuſing the proper Time, and this, Obſervation muſt tell the Gardener; for Seaſons vary ſo much, that no exact Rule can be laid down about it. The Art is to hit upon that Seaſon when the Fruit is coming faſt to Maturity, but is yet firm on the Branches.

SECT.

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SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

CHUSE a well ſheltered Piece of the Ground for Spring Onions: this Week is the beſt Time in the whole Year for ſowing of the Seeds. Let the Mould be made very fine, and the Seed thrown on pretty thick.

When the young Onions appear they may be thin'd where they riſe in Cluſters; and they muſt be kept well weeded, and from time to time refreſhed by gentle Waterings.

At the Approach of Winter ſome Preparation ſhould be made for ſheltering the Bed in extream ſevere Weather by a Mat or Canvas. The Onion is not ſo tender as to give the Gardener a great deal of Trouble on this Head; but it will be proper to keep off the Effects of the moſt violent Froſts.

This Week it will alſo be proper to plant out ſome Lettuces to come in toward Autumn. A great deal will depend in this Matter upon the Choice of a Place; and this ſhould now be ſelected with Care.

The Lettuces we are about to plant out will continue till the Froſts deſtroy them; therefore let the Gardener ſelect a Place where they have leaſt Power: a warm Border under a Wall, and defended by a Reed-hedge, if expoſed from either End, will be the right Choice; and the Mould ſhould be dug a full Spade deep, broke very fine, and the Lettuces allowed a Foot and half Diſtance.

They muſt be planted with great Care, and watered every Evening till they are perfectly rooted; and afterwards once in three Days to promote their ſpeedy Growth.

As they encreaſe in Bigneſs, the Ground muſt be weeded and broke between them; and when they come for Uſe, they ſhould be carefully picked out in ſuch manner as to leave the Ground free, and equal between the Remainder. Thus they will improve from the Time of the firſt Gathering.

The ſeedling Beds of Coleworts muſt be thin'd; the Plants that are taken up ſhould not be thrown away, but removed into another Bed; and after this the Seed-bed muſt be weeded.

This muſt be repeated from Time to Time. The tranſplanted Seedlings muſt be carefully watered; and the Bed often refreſhed in the ſame Manner.

It will be a great Advantage to the whole Growth, to bring them forward now, and this will be the moſt effectually done by frequent Waterings; for the Warmth of the Seaſon, with that Aſſiſtance, will have great Effect.

The whole Ground muſt be kept weeded; and the Generality of the Crops will be greatly forwarded by theſe Waterings. The Weeds on Dung-hills, and waſte Places near the Ground, ſhould alſo be pulled up now to prevent the ripening of the Seeds.

EDEN:

EDEN:

A

COMPLEAT BODY of GARDENING.

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NUMBER XLVIII.

For the third Week in *AUGUST.*

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SECTION I.

FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

I. YELOW HEMEROCALLIS.

August. Pl. 48. Fig. 1. THIS is a very beautiful Flower, known to the Gardener familiarly, and deſcribed by all the Writers on Botany, though under different Names. CLUSIUS calls it, *Lilio aſphodelus luteus*; and C. BAUHINE, *Lilium luteum Aſphodeli radice:* the yellow Lilly Aſphodel; others, *Lillium non bulboſum.* — LINNÆUS ſeparates it with Reaſon from the Lillies; and calls the Genus *Hemerocallis.* To diſtinguiſh this Species, he adds, *Scapo ramoſo, corollis monopetalis:* branched Hemerocallis, with Flowers of one Petal. The Diviſion into Segments is deep, but the Name is accurate and juſt.

The Root is altogether unlike that of the Lillies; compoſed of numerous, oblong, tuberous Parts, with many Fibres. The Colour is yellowiſh, and the Taſte ſweetiſh.

The Leaves are long, hollowed, narrow, pointed at the End, lightly ſtriated, and of a pale yet agreeable green.

The Stalk is ſlender but firm, two Foot high, of a pale green, and naked except for two or three leafy Films.

The Flowers are numerous and elegant. They are large, of a very delicate yellow, and of an extreamly fragrant Scent.

August. Each riſes naked from the Footſtalk, and is narrow at the Baſe; expanded to the Top, and cut very deeply into ſix Segments. The tubular Part at the Baſe is ſhort, and the Segments turn back at their Ends.

In the Centre ſtand ſix Filaments, a little ſtooping, and of theſe the upper ones are ſhorter than the others: the Buttons are oblong and incumbent.

The Style which riſes from a roundiſh furrowed Rudiment, is ſlender, ſimple, and crowned with a ſmall Head.

The Student will ſee that the ſix Filaments refer the Plant to the *Hexandria* of LINNÆUS, and the ſingle Style to the firſt Section of that Claſs, the *Monogynia.*

Our Gardeners Names for it are as various as thoſe of the earlier Writers: all unartful; but all formed upon ſome of its Qualities. They call it the Day Lilly, from the ſhort Duration of the Flowers; the Tuberoſe Lilly, from the ſweet Scent of the Flowers reſembling the Tuberoſe, and ſome the Yellow Tuberoſe.

Culture of this HEMEROCALLIS.

The Plant is native of the northern Parts of *Europe*; it gilds the Meadows of *Bohemia*; and in *Hungary* perfumes the Air in ſome Places for many Miles. It loves a deep black Mould with moderate Moiſture.

Hence the Gardener who acts upon the Principles of Reaſon, is to deduce the Method of its Culture. No artificial Heat can be needed for a Plant which naturally lives in ſo cold a Climate; nor can any Soil ſuit it ſo well as its native Meadow Earth; enriched, without altering its Quality. It is to be managed thus:

Mix together four Buſhels of black Mould from under the Turf in a rich Meadow, two Buſhels of River Mud, and one Buſhel of old Cow Dung. Throw theſe together in a Heap in Autumn, and let them lie till the *October* following. Then chuſe a Part of the Flower Garden where there comes little Sun, and where there is the Shade of ſome Trees.

Dig out the Mould two Spades deep, and throw into the Place firſt a Foot Depth of pure freſh Earth from a Meadow, and then this Compoſt. Level the Surface, draw Lines acroſs and lengthwiſe, and a Foot and a half Diſtance, and in the Centre of each Square open a Hole.

The Plant muſt be propagated by Root: for thoſe Kinds which increaſe at the Root ſo abundantly, rarely ripen Seeds.

In *October* let the old Roots be taken up and parted, and one good ſeparated Root planted in each Hole. Cover them an Inch and half; and keep the Ground clear from Weeds: Nature will do the reſt.

After this, every Autumn the Roots ſhould be taken up, and reduced to a proper Quantity; and the Compoſt dug out, and its Place ſupply'd with a freſh Parcel.

This Compoſt which is taken away may be uſed for other Plants which require the ſame kind of Soil; for though it will not ſupport the ſame Root again in that full Luſtre we expect for theſe Flowers, it is not exhauſted.

This may be the Practice of the Gardener alſo on many other Occaſions: the Compoſt removed from the Bed of one Plant, may be uſed for another which requires the ſame kind of Soil: but I have found that on many Occaſions it is abſolutely neceſſary to remove the Earth in which a Plant has grown, and to give freſh, in order to keep it in Perfection.

This Particularity is not limited by Nature to Flowers, but reigns among the meaneſt Plants. Scordium, which is as hardy as any Herb we have, will not grow in any tolerable Condition, for a Continuance of Time, upon the ſame Ground.

2. GREAT RED CHEIRANTHUS.

Pl. 48.
Fig. 2.

The Gardener knows the Stock Julyflower too well to be miſled about its Figure; but it is needful he be told LINNÆUS has given it the Name *Cheiranthus*.

That Author has in many Caſes altered the Names of Plants boldly; thoſe who have not entered into his Reaſons have ſaid arbitrarily; but to judge of his Motives, Men muſt take in the whole Compaſs of the Science: all lay before him when he made theſe Innovations; and to thoſe who entertain the ſame comprehenſive View they will be found juſt, and neceſſary.

Thoſe who have leſs general Knowledge, owe his great Name the Reverence to believe, that has been needful which appears ſuperfluous, and that right, the Reaſons of which they do not comprehend.

There is no Writer on Plants, or on Gardening, who has not named this elegant Genus; fruitful of Varieties, and comprehending many diſtinct Species which afford them.

They have, in general, treated of the Plant under the Name *Leucoium*, with the Additions of *Sativum*, *duplex*, *purpureum*, *roſeum*, and *violaceum*: the double Garden Leucoium, with purple, violet, or white Flowers. Our Gardeners name it the Stock *Julyflower*, or ſimply the Stock.

The *Latin* Name *Leucoium* has been uſed with the Addition of *Bulboſum* for a very different Plant, and to that LINNÆUS alſo has aſſigned it: we know how vague and various a Senſe the *Engliſh* Name Julyflower bears; and when the Gardener underſtands the Reaſon of the more modern Term *Cheiranthus*, he will judge that it ought to ſupplant the *Engliſh* as well as the old *Latin* one.

To this generical Name LINNÆUS adds as the Diſtinction of the ſingle Species, to which the double Flower we deſcribe here owes its Origin, *foliis lanceolatis*, *integerrimis*, *obtuſis*, *incanis*, *ſiliquis apice truncatis*, *compreſſis*, *caule ſuffruticoſo*: woody ſtalked Cheiranthus, with lanceolate, undivided, obtuſe, hoary Leaves, and compreſſed Pods with abrupt Tops.

The Name is long, but the Species of Cheiranthus are numerous.

The Root is thick, woody, white, and hung with innumerable long Fibres.

The Stem is ſingle, upright, woody, tough; of a whitiſh Colour, covered with a light Down, and half a Yard in Height. At the Top it divides into numerous Branches which throw themſelves every Way with a wild, but not ungraceful Irregularity, and are of the Length of the main Stem.

The Leaves are oblong, undivided, broadeſt toward the Middle, covered with a thick hoary Matter, and of a pale greyiſh green.

The Flowers are very numerous, and very beautiful: they cloath the extream Parts of all the Branches, and are large, double, of a rounded or roſy Form, and a very ſweet Scent. Their Colour varies without Bound or Limitation.

In the State wherein we have repreſented the Plant, and in which the Flowers grow largeſt of all, and moſt regular, the Colour is a fine deep glowing red, properly a crimſon, with ſome ſmall Tinge of purple: but from this the Variation in ſeedling Plants runs into the deepeſt Violet, and thro' all the Degrees of Paleneſs into abſolute white.

Theſe are the ſimple Colours, but the Flowers are capable of an endleſs Variegation, by the mixing of two of theſe in the various Forms of Stripes, Spots, and Blotches.

The Gardener who conſiders the Varieties which there are in the Colour red, taking it from the paleſt fleſhy Hue to the purple of the Violet, will know that there may be a vaſt Variety in the Diſpoſition of thoſe ſeveral Tincts together. The white is an Addition beyond all theſe, and it ſets off all the various Dyes with an elegant Oppoſition.

Theſe are the genuine Sources of Variety in the double and ſtriped Stocks, and few Flowers exceed them in Elegance. The botanical Student muſt be referred for the Characters to a ſingle Flower.

He will find this placed in a Cup compoſed of four Leaves, and of a flatted Form: the Leaves which form it are hollowed, upright, parallel, and convergent, and the two which ſtand outwards have a Prominence near the Baſe.

The Body of the Flower is in this ſimple State compoſed of four Petals: theſe are placed croſswiſe, and are broad and ſhort, but they have very narrow Baſes of the Length of the Cup.

In the Centre are placed ſix ſlender Filaments, they all ſtand parallel: four of them are of the Length of the Cup, and the two others ſomewhat ſhorter; theſe ſtand within the prominent Leaves of the Cup.

The Buttons are upright, ſplit at the Baſe, and pointed, and turned back a little at the Top. On each Side the ſhorter Filaments are preſſed by a nectariferous Gland.

In the Bottom of the Flower is placed the Rudiment of the Fruit: it is ſquared and edged, and equals the Filaments in Length.

The Style is very ſhort and flatted: and it is crowned with an oblong Head, thick, permanent, divided into two Parts, and thoſe turned back.

The Seed-veſſel is a long Pod, with the Style and Head affixed to the End in their natural ſhort Form.

The Student knows that when four of the Filaments in a Flower are regularly longer than the two others, the Claſs is characteriſed, not by the Number, but by this Diſproportion. The Plant is thus referred to the *Tetradynamia.*

The Subdiſtinctions of this Claſs we have obſerved before are founded on the Structure of the Seed-veſſel, and this is by that referred to the *Siliquoſe* Kind.

Culture of the CHEIRANTHUS.

The innumerable Varieties of the *Cheiranthus*, or as it is called *Stock Julyflower*, all are produced from this ſingle Species: they are ſeedling Varieties; and one Rule of Culture ſerves for the Production and Preſervation of them all. As this is a very eſſential Article in the Flower Garden, we ſhall give it at large as Experience directs, and as the joint Teſtimony of thoſe who have been moſt ſucceſsful in raiſing this beautiful Flower, confirms.

The Plant is a Native of the warmer Parts of *Europe*, and never thrives ſo well as near the Sea. This is its original Condition of Growth: this the Gardener wholly neglects: but by a due Attention to this, and an Obſervance of the known Rules, the Plant will be raiſed to the moſt full Perfection.

The firſt Care will be the preparing a right Soil; and in this Article it is, the Source of Improvement lies: this therefore muſt be at once made of a due Quality, and adapted to the natural Condition.

Let a Compoſt be made of theſe Ingredients; a Cart Load of fine Paſture Earth from under the Turf, half a Load of Pond Mud, and four Buſhels of large coarſe Sand, with the ſame Quantity of Cow Dung. Mix theſe into a Heap at this Time of the Year, and ſprinkle them with a Pail full of Sea Water; or if that cannot be had, uſe in its Place the ſame Quantity of Brine, and add a Buſhel of Wood Soot.

This is to be expoſed to the Air all Winter, and to be frequently turned; and once in the Time, when the Weather is froſty, half the Quantity of Brine or Sea Water that was uſed at firſt, muſt be thrown over it again.

This prepared and laid up, let the Gardener mark Plants for Seeds. If he have Correſpondence with other Gardeners, he ſhould ſave the Seed from Plants in their Ground; and the more remote the Place the better.

Let him ſelect ſuch ſingle Stocks for Seed as are large, robuſt, well growing, and would naturally have a vaſt Multitude of Flowers; and ſuch as have in ſome Flowers ſomewhat above the proper Number of Petals, five, ſix or more: this is the firſt Tendency in Nature to Doubleneſs; and this he ſhould carefully watch for the farther Improvement.

Let the Plant which is thus marked ripen but a moderate Quantity of Pods, pulling off the other Flowers as they appear; but let all thoſe which have more than the four Petals, be ſaved for the Seed.

Let the Ground be cleared for a Yard every

Way round this Plant, and well dug up at that Diſtance; and let the Surface be broke nearer the Stem. Every Evening let the Plant have a good Watering, and tie up the Stem to a firm Stake to prevent the rocking by Winds.

Let the Ends of all the Stalks on which the Seed is ſaved be nip'd off; and if there be any decayed Leaves about the Plant, let them alſo be picked clean away. When the Pods are full grown ceaſe the Watering. When the Seeds are hardened in them cut off the Pods, and lay them on a papered Shelf to dry. After a Fortnight ſhake out the Seeds; ſpread them alſo for ſome Days upon the Shelf to harden, and then tie them in Paper Bags, and hang them up for Winter.

In the firſt Week of the *April* following, prepare a Piece of Ground in the Seminary: let it be open to the South Eaſt, and defended from cold Winds.

Dig out the Mould three Quarters of a Spade deep, and fill up with the Compoſt: level the Surface, ſcatter on the Seeds; and ſift over them a Quarter of an Inch of the ſame Mould.

When the Plants appear they muſt be thin'd where they riſe too cloſe, and after this they muſt have frequent Waterings.

No Seedlings are more in Danger from Inſects than theſe; and various ſtrange Methods have been uſed to preſerve them. The moſt common Way is to ſow among the Stock ſome Radiſh Seed. They who adviſe this ſay, the Intent is that the Flies may faſten upon the young Radiſh Leaves, of which they are fond, and leave the Stock Plants.

He who has been the Miſleader of *Engliſh* Gardeners through the whole Courſe of their Profeſſion, is Author of this Practice: how contradictory to good Senſe all muſt ſee, who enter upon the Profeſſion on Principles of Reaſon; and how miſchievous in fact let all thoſe ſay who have ſeen their Seedlings half devoured, and the other half deſtroyed by it.

It is true that the ſame Fly feeds upon the ſeedling Radiſh, and the ſeedling Stock; and true that it is fonder of the Radiſh than of the other; or than of any thing elſe: but who ſhall ſay that when the Radiſhes are devoured, or ſpoiled, it will not fall upon the other Plants, its natural Food, after them.

If a large Quantity of Radiſhes be ſown, the young Stocks will be drawn up weak, and ſpoiled them; and if there be only a ſmall Proportion, the Flies are invited to the Place by them; and when they are conſumed, they will certainly faſten upon the others. Certainly the inviting thoſe Inſects to the Place, which there is the greateſt Reaſon to fear, is the worſt Policy that could be preſcribed.

In the Place of this abſurd Cuſtom, let the Gardener who ſtudies his Profeſſion rationally, conſider what it is that makes his ſeedling Stocks liable to the Miſchief of theſe Inſects, and he will know how to propoſe a reaſonable Safeguard.

We have told him that all Plants are liable to Inſects in Proportion as they are in a ſickly State; and 'tis exactly ſo in this Inſtance.

The ſeedling Stocks require repeated Waterings: without theſe they ſoon fade: their Juices ſtagnate, and the Swarm of Devourers appears. This is the Cauſe, and the Remedy is eaſy. The young Plants muſt not be chilled, or overflowed with Water, but they muſt be well ſupplied with it. Therefore the Method is to give it them in moderate Quantity twice every Day. In this Management they ſet out with a vigorous Growth, and continue it without any Check, and I never once ſaw the Flies attack them when thus ſupported.

In the latter End of *May* let another Bed of Compoſt be made for them juſt by the firſt, but larger: the ſame Situation is proper; and the nearer the Beds are, the leſs Damage the Plants will get in the Removal.

Let the Surface of this new Bed be levelled, and Lines drawn upon it both Ways at five Inches Diſtance.

In the Centre of every Square ſet one of the Plants from the Seed-bed, and when all are in, give them a gentle Watering, ſhade them by a Reed-hedge, and repeat the Watering till they are perfectly rooted: after this let them be conſtantly weeded and watered once in three Days till the End of *Auguſt*.

At that Time let a large Bed be made up for them in the Flower Garden, and let them be taken up in the Evening of a cloudy Day, and planted in it at two Foot Diſtance.

They muſt be watered and ſhaded till they have taken Root; and after that they will require only to be kept clear from Weeds, and now and then refreſhed with Water in common with the other Plants.

They will flower the next Year, and there will be among them ſeveral common ſingle Kinds; ſome ſingle of better Colours, and with more than the common Number of Petals; and ſeveral very fine double ones.

The ordinary Kinds muſt be pulled up as ſoon as the Flowers open: this will give more room to the others: the ſelect and fine ſingle Kinds muſt be marked for Seed; and the fine double ones managed with all Care to promote the Fullneſs and Beauty of their Flowers.

The Seeds ſhould be ſaved from the fineſt ſingle Kinds as directed before, and ſown in the ſame Manner for a Supply: the Plants never flower ſo ſtrong, or ſo well as the firſt Seaſon; and it is beſt to depend upon Seeds for an annual Store.

The Seeds ſaved from theſe Plants will not fail to produce the Gardener many double and very fine Flowers, but the beſt Method is to exchange them annually with ſome Perſon of Integrity at a Diſtance. This Sort of Intercourſe is eaſy, for it ſerves the Purpoſes of both Parties.

The fineſt Flowers may be propagated by planting Slips or Cuttings of the Plant: but they never

August. never thrive ſo well, nor flower ſo ſtrong, as the ſame Kind raiſed from Seed; and where there is a good Quantity of the Seed ſown, there is no Fear of having enough of the double Flower.

This is the Management of the common double Stock, and all its Varieties: there are beſides this ſome of a ſhorter Growth, which muſt be managed accordingly. Of theſe we ſhall ſpeak in their Place on a ſucceeding Occaſion. August.

3. ORANGE HAWKWEED.

Pl. 48. Fig. 3. This is a Plant very common in our Gardens, and by its Singularity very well deſerving to retain its Place there: the old Authors have all deſcribed it; but under different Names.

The *Hawkweeds* were eaſily known, and this appears ſo plainly to belong to them, that one would wonder it ſhould at any Time have been refer'd to any other Genus; but we find the Generality calling it *Peloſella major*, and *Auricula muris Hiſpanica:* great Mouſe-ear, aud Spaniſh Mouſe-ear.

Our Gardiners have been from this led to call it *Golden Mouſe-ear*, and they have a cant Name for it alſo which has been in Uſe more than a hundred Years, *Grim the Collier.* LINNÆUS refers it to the *Hawkweeds*, and diſtinguiſhes it by the Addition of *Hieracium*, *Foliis integris caule ſubnudo ſimpliciſſimo piloſo corymbifero:* entire leav'd Hawkweed, with a hairy, ſimple, corymbiferous Stalk, with ſcarce any Leaves.

Thoſe who have before refer'd it to the Hawkweed kind, have diſtinguiſhed it by the Name *Hortenſe*, *Garden Hawkweed*, and they have added tho' in odd Terms, the Colour of the Flower. C. BAUHINE ſays, *Floribus atro-purpuraſcentibus:* with blackiſh, purple Flowers: but their Colour is a very ſtrong Orange Scarlet.

The Root is oblong; purpliſh at the Head, white below, and hung with many thick Fibres: beſides theſe it ſends out every Way a Kind of Tendrils, which take Root again at their Ends, and ſpread and propagate it abundantly.

The Leaves are numerous and large: their Colour is a deep, blackiſh green, and they are covered with firm and ſtiff whitiſh Hairs; they are oblong, undivided, and of moderate Breadth.

The Stalk is ſimple, upright, round, and almoſt naked; a ſingle, ſmall Leaf ſometimes adheres to it, rarely more: its Colour is a paler green than that of the Leaves, and it is covered with the ſame Kind of Hairyneſs: it divides into no Branches, but at the Top ſpreads out into a tufted Head of Flowers. The Bottoms of the Hairs, which cover the Stalk, are black, and they appear at a Diſtance as ſo many black Spots upon its Surface: the Height of the Stalk is a Foot and a half, and the Crown of Flowers at its Summit is often five Inches in Diameter, but where there are fewer of them they are finer.

Each Flower is ſurrounded by a rough, blackiſh Cup, and is itſelf rounded, radiated, and of a very fine Orange Colour; or ſomewhat redder than what we exactly mean by that Word.

One Flower always ſhews itſelf firſt upon the Plant, and paſſes through its State of Perfection, before the others open. This is the moſt perfect and moſt beautiful: from this the Gardiner ſhould ſave Seeds; and in this the Botaniſt ſhould ſearch the Characters of the Plant.

He will find the Cup thick, and compoſed of many narrow and unequal Scales plac'd lengthways and incumbent.

In this ſtands the general Flower, which is compoſed of many Floſcules, laid in a regular Manner one over another, and all of the ſame Structure.

Each Floſcule is form'd of a ſingle Petal, and is flat, narrow, and when perfect, cut in five Places at the End.

To each of theſe Floſcules belong the male and female Parts of Impregnation; the male Parts are five very ſhort Filaments, with oblong and tubulated Buttons, growing together in Form of a Cylinder.

The Style is ſimple, of the Length of the Filaments, and has a double Head, the two Parts of which are equal; this riſes from the Rudiment of the Seed, which, when it ripens, is winged with Down.

The Student knows that in this Caſe the Coaleſcence of the Buttons marks the Claſs of the Plant: it is one of the Syngeneſia. He has ſeen in many Inſtances, that the Flowers in the Plants of that Claſs are compoſed of tubular Floſcules in the Diſk, and a Verge of Rays of the flat or ligulated Kind: this is one of thoſe in which all the Floſcules are ligulated; and theſe Flowers are called imbricated, from the Floſcules lying one over another in the Manner of Tiles.

The Sub-diviſions of the Syngeneſious Plants are formed upon the Manner of Impregnation: in this it is equal; for the Floſcules have each the male and female Parts perfect, and all ripen Seeds; therefore what one does for another, is returned in the ſame Manner.

The Buttons impregnate their own Styles and thoſe neareſt them, and the Plant belongs to the *Syngeneſia Polygamia æqualis.*

Culture of this HAWKWEED.

It is frequent wild in the Southern Parts of *Europe*, nor is it confined to thoſe: We ſee it flouriſh perfectly well on the Mountains of *Switzerland.* It loves a deep, mellow Soil, and requires very little Care in the Culture. No Compoſt ſuits it better than the common Mould of our Garden Borders, and the beſt Situation is where there is ſome Shade, and where there comes ſome Moiſture.

It is to be raiſed from Seed; and the great Art, which none, tho' pointed out ſo obviouſly by Nature, have regarded, is to ſave that Seed only from that firſt Flower, which is ſo much ſuperior to all the others.

Let the Seed be carefully ſaved from this; and dry'd upon a Shelf in a Sheet of Paper: for, if left looſe, the leaſt Motion of the Air will carry it away.

In the Beginning of *September* let this be ſown upon a rich ſhaded Piece of Ground; and when the Plants come up let them be thinn'd, weeded, and watered. They will live through the Winter without Danger, and will flower in Perfection the ſucceeding Seaſon. After this they will increaſe faſt by the Root; but as the Propagation by Seed is ſo eaſy, it is beſt to do it every Year, for the Flowers never are ſo perfect as on the firſt blowing.

4. The BEE FLOWER.

Pl. 48. Fig. 4. We enter on the free Conſideration of a Plant, whoſe Nature, Qualities, and Culture have been much miſunderſtood; and a proper Diſcuſſion of which will be, in more than this ſingle Inſtance, of Uſe to the Gardener, as well as Information to the botanical Student.

Every one has heard of the *Bee Flower*, but its Management in a Garden is ſo little underſtood, that very few have ſeen the Plant; and wonderful as the Form of the Flowers appears, fewer yet, till LINNÆUS led the Way, have underſtood them.

That the Plant is worthy of a Place in the beſt Gardens, none will doubt; and we ſhall ſhew, from Practice and Experience, that altho' the raiſing it there requires a great deal of Care and Attention, yet when that Attention is rightly apply'd, it is as certain of Succeſs as in other Flowers.

All who have written on Plants have named this vegetable Wonder; nor have they ſaid too much of the Singularity, and perfect Mimickry of animal Nature in the Flower.

Fancy has been, in too many Caſes, brought in to find imaginary Likeneſſes; but the Reſemblance of a large humble Bee is ſo ſtriking in this Flower, that where it has grown by a Road-Side, Men have been ſeen to ſtrike at it with their Whips as they paſs'd by, ſuppoſing it a real, living Inſect.

The young Gardener muſt not be ſurprized, after we have named the Difficulty of its Culture, to hear of the Plant as a Native of our own Kingdom; many of the more ſingular Plants of *England* are worthy a Place in Gardens, but are more difficult to be raiſed there than the Natives of the *Indies*.

The Writers on Plants name two Kinds of the *Bee Flower*, both which they univerſally refer to the Orchis Kind; and they are diſtinguiſhed in *Engliſh* by the Names of the *Bee*, and *Humble Bee Orchis*.

Theſe are only Varieties of the ſame Plant, nor is the Variation limited within that Compaſs: according to the more or leſs favourable Circumſtances of Growth the Flower will be larger or ſmaller, and there will be ſome Variation in Colouring: in Gardens, when well managed, it exceeds all that is ſeen wild: it ſwells to the full Size we have repreſented in the annexed Plate. So BESLER ſaw and figur'd it long ſince; and ſo we have this laſt Year ſeen it flower under our own Care.

The Names by which botanical Writers have called the Plant are *Orchis fuciflora*, and *Orchis fucum referens*, *Orchis Melittias*, and *Orchis Sphegodes*, ſome *Teſticulus Sphegodes*, and others *Satyrium fuciflorum:* all theſe Names, whether of *Greek* or *Latin* Origin, have the ſame general Meaning; they refer the Plant to the *Orchis* Kind, and expreſs the Reſemblance of a Bee in the Flower.

LINNÆUS has entered into this Subject more deeply. The numerous Plants, by preceding Writers comprehended under the general Name *Orchis*, he has divided into three Genera: 1. The *Orchis*, properly ſo called. 2. The *Satyrium*. 3. The *Ophrys*. Theſe are kept ſeparate by the following Particulars: In the *Orchis* there is a Spur or Horn to the Flower: this is the Nectarium running out behind. In the *Satyrium* the Nectarium is alſo placed behind, but it is not horn'd or pointed, but inflated and doubled ſo as to reſemble a Scrotum: in the *Ophris* the Nectarium is a dependent Lip, cut into two Parts, and denticulated on each Side: theſe comprehend, under the three diſtinct Heads, the Plants in general by others ranged together as *Orchis's*; and it will be found by this accurate Diviſion, that the *Bee Flower* does not come under the *Orchis* but the *Ophrys* Kind. Beſides theſe, ſome particular Plants have been denominated *Orchis's*, which having the Nectarium oval, ſwol'n, and furniſh'd with an oval Lip, are referred to another Genus, the *Serapias*, properly including the Helleborine; and others are placed with the Arethuſa and Cypripedium, having Flowers altogether diſtinct, tho' called by leſs accurate Writers by this general Name.

For the farther aſcertaining this Species, the *Bee Flower*, it is neceſſary to obſerve, that LINNÆUS does not allow it a diſtinct Name, or ſeparate Exiſtence from the Fly *Orchis* and ſome other Kinds.

Beſides the two *Bee Orchis's*, we read in Authors of a greater and leſſer *Fly Orchis*, a blue and a yellow *Fly Orchis*, a *Spider Orchis*, and the like. All theſe LINNÆUS refers to one Head, and conſiders them as Varieties from the Accidents of Growth, all referable to one common Species. This he calls the *Inſectiferous Ophrys*; and he obſerves, that although the ſeveral Kinds have, to a ſuperficial Eye, very evident Marks of Diſtinction, yet, on a more accurate View, they will be found all deduced from one original Stock, and, that different as their Forms appear, there is no Mark of abſolute Separation.

On this Conſideration he refers them all to one Species; and having, by the Character of the Nectarium, before removed this from the *Orchis* to the *Ophrys* Kind, he adds, as the Diſtinction of the Species, *Bulbis ſubrotundis*, *caule folioſo*, *nectarii labio ſubquinque-lobo*: *Ophrys* with a leafy Stalk, and with the Lips of the Nectarium marked by five ſlight Diviſions.

This is the proper Name of the *Bee Flower*, this will be found to ſeparate it from all the other Species; and under this the Flies and Spiders, and BREYNIUS and MORISON's Monkey and Beetle Orchis, will be all comprehended. All thoſe are therefore to be conſidered as accidental Changes; and although this may appear bold and arbitrary on the firſt Conſideration, yet he who has ſeen what Culture effects upon the Flower in the preſent Inſtance, will be eaſily reconciled to the Determination.

The botanical Student will not think thus much miſapplied in explaining the Nature of ſo ſingular a Plant, to whoſe Deſcription we ſhall now proceed, and afterwards to its Culture.

The Root is compoſed of two roundiſh Bulbs, white, large, juicy, and of a pleaſant, ſweetiſh Taſte.

The Leaves are numerous, oblong, moderately broad, of freſh green, undivided at the Edges, ribb'd lengthwiſe, and pointed. They grow in a various and uncertain Manner, ſome obliquely, ſome flat upon the Ground, and others riſing with the Stalk, whoſe firſt Shoot appears very ſoon after them.

The Stalk is round, upright, and a Foot in Height, of a pale green, and juicy.

The Leaves are few upon it, and they ſtand irregularly, they are oblong, and rib'd as thoſe from the Root.

The Flowers are placed at Diſtances one above another, and they are in the higheſt Degree conſpicuous. They reſemble in Form and Colouring the great dark Humble Bee, ſo regularly, that one ſtarts at the Sight, and cannot, without Recollection, imagine that they are real Flowers.

Let the Student underſtand, that wild as well as in the Garden there are various Appearances in them, Nature ſporting in an unbounded Freedom; and let him alſo recollect there is more than one Kind of the Inſect; when the Flower is in Perfection, if he will bring the commoneſt Kind of Humble Bee, which is the largeſt but one, to the Plant; and he will find the Reſemblance ſtrengthened, not hurt, by that cloſe Compariſon.

The Parts are theſe: the Rudiment of the Seed-veſſel ſupports the Flower naked, for there is no Cup.

The Petals are oblong: they are five in Number, three larger, and two ſmaller; and the Nectarium, which forms a Kind of Lip, hangs down. This is the whole Flower. There riſes with each an oblong, narrow, leafy Film; and it is in the Nectarium, that we ſee the Form and Colouring of the Bee: the Petals are purpliſh, and have each a Rib of green.

The Top of the Nectarium is alſo of a duſky Colour, not without ſome Tinge of purple. The Body of it, which hangs down, is rounded, hairy, and very much of the Shape and common Colour of the Body of a Humble Bee, duſky and blackiſh.

The Colour is of a different Tinct, as ſeen in various Lights, and has a velvety Appearance. Upon this ground Colour there are diſpoſed ſeveral Streaks of a tawney yellow, which alſo ſhew themſelves variouſly according to the Light; and there are ſome Lines of white alſo elegantly diſpoſed, principally on the under Part, and toward the Head in the upper.

This is the moſt perfect State of the Flower; in this Condition we are ſure to find it wild, where all Things favour; and to this State it may be brought in Gardens: neither are we to ſuppoſe becauſe we ſee the Flower ſmaller, or the Colouring otherwiſe diſpoſed, that the Species is diſtinct.

The Filaments are only two; they are fixed to the female Part, and are terminated by upright Buttons, which are defended by the inner Edge of the Nectarium.

The Rudiment of the Fruit which ſupports the Flower is twiſted, the Style is ſingle, and is fixed to the interior Edge of the Nectarium, and crowned with a ſmall Head.

We have told the Student that when the Filaments grow to the Style or female Organ, this Situation, and not their Number, marks the Claſs of the Plant. This is by that Character refer'd to the Gynandria; and the Subdiſtinction to which it is to be refer'd is that of Diandria, eſtabliſhed on the Number of thoſe Filaments.

This is a claſſical Character on other Occaſions, but where the Claſs is marked by the Diſpoſition of the Filaments, their Number only makes a Subdiſtinction.

The Seed-veſſel, which follows every Flower, is of an oblong, oval Form; obtuſe, ſtriated, form'd of three Valves, and marked with three Ribs: the Seeds are very minute and brown.

Culture of the Bee Flower.

The Plant is wild in all the temperate Parts of *Europe*, but it is no where common: for of Millions of the Seeds which the Winds ſcatter, ſcarce one falls where it can ſhoot.

It is found principally on the hollow Sides of old Gravel Pits, where there has been Time for a ſlight Covering of Graſs; and ſometimes in the looſe Earth upon the Edges of Woods. In theſe latter Places the Flower is uſually ſmall; where there is leſs Moiſture and more Sun it attains the due Perfection.

I have found it near *High Wickham*, and on the Edge of *Charlton Foreſt* in *Suſſex:* and Linnæus's Opinion is extreamly confirm'd on the Subject, by what occur'd in this latter Place.

The late Duke of *Richmond*, to whom I ſhew'd it there about ſixteen Years ago, and with whom I afterwards annually viſited the Place, ſhared the Aſtoniſhment with me of ſeeing the ſtrange Uncertainty of the Flower.

We never failed to find ſome Plants of it there, though there were never many; ſix or eight perhaps ſcattered over a Spot of two hundred Yards ſquare, where there was clear Ground, and ſome free Air as well as Shelter. It is certain that we ſometimes found theſe Plants to be of the Kind called *Fly Orchis*'s, and at other Times of the true and genuine *Bee* Kind: this ſhews that theſe, however long underſtood as diſtinct Species, are no more than Varieties of the ſame Plant; and one Thing more which an unaltered Experience of ſeveral Seaſons confirmed, was, that a rainy Year certainly ſhewed us the Flowers ſmall, and of the Fly Kind; and a warmer and drier Seaſon the Bee Flower in its proper Form.

The preſent Duke of *Portland*, to whom the Science of Botany has great Obligations, and whoſe Name would be often echo'd as its Patron, if he did not eclipſe that Title by yet greater Qualities, preſerves this Plant in great Perfection.

The Place is one of thoſe old Gravel Pits where it delights to grow, and where Nature's Hand firſt ſcattered the light Seeds. That Nobleman has encloſed this Spot within the Limits of his Ground; and it flowers there annually with more Regularity, in Form, and Colouring, than it ever does in Places more expoſed to the Uncertainty of the Seaſons: I have obſerved it there many Years, and always fine; not of the largeſt or the deepeſt Kind, but very elegant and expreſſive.

From this which we ſee in Nature we muſt learn the great Leſſon of its Culture. It may be raiſed on the Edges of Wilderneſſes, but it will there be liable to many Diſadvantages: the true Place is a Hollow in a dry Spot, well defended, and where the Surface may be covered with a ſlight Coat of Graſs; not in Turfs, but ſcattered.

The Method ſhould be this: When the Plants are in Flower, mark as many of the ſtrongeſt and beſt as are intended to be taken into the Garden.

Chuſe a Place for them that is open to the South Eaſt, and perfectly defended from cold Winds. Dig out the Mould two full Spades Depth, and bring into the Place as much of the Soil in which the Plant is growing as will fill up the Room of it.

Let this be taken up not only from the ſame Gravel Pit, but from the ſame Side of the Pit, and as near the Plants as may be done with Safety from diſturbing their Roots.

Let this lie a Month to ſettle. By that Time the Stalks and Leaves of the Plants will be in a withered State.

Let the Gardener watch his Time when they are juſt faded, and then take up the Roots.

In this there muſt be a great deal of Care uſed. He is not to ſuppoſe he takes up all the Root of an Orchis who gets the double Bulb: the Fibres run to a great Depth, and ſpread a great Way; and unleſs theſe are brought up entire, and delivered uninjured to the new Soil, there is no Hope of ſucceeding.

The Method muſt be this. A cool Evening, when the Air is damp, muſt be choſen for the Purpoſe: the Gardener muſt dig round at the Diſtance of a Foot every Way from the Stem, and he muſt clear the Soil away full two Spades Depth.

A Hole of equal Diameter muſt be opened in the Bed, and the whole Ball muſt be taken up with the Root undiſturbed in it, and let into the Hole unbroken. The Earth muſt be filled in to cloſe up the Space, and a gentle Watering muſt be given in that Place, not near the Root.

Then ſome Hay-ſeed muſt be ſcattered upon the Surface, and all left to Nature.

The Graſs muſt be ſuffered to grow moderately thick, and the Plant will riſe as naturally among it as in the original Pit.

A little Graſs-ſeed muſt be then ſcattered over the intermediate Space of the Border, between this firſt Root, and the others removed in the ſame Manner; and when the Graſs appears it muſt be thin'd. No Part of the Bed muſt be left naked, nor muſt it any where grow too cloſe. The original Root will flower; the Seeds will ripen, and all muſt then be left to Nature. They will fall among the Graſs, and over the Border, and ſome will ſtrike and produce new Plants.

This is the Method when the Plants grow wild near the Garden; but from greater Diſtances it muſt be brought without ſuch Encumberance. Such a Bed ſhould be prepared: the Roots ſhould be taken up in the ſame Manner when the Leaves

1 Yellow Hemerocallis

2 Great red Cheiranthus

3 Orange Hawkweed

4 The Bee Flower

5 Dotted Canna

6 Crimson Byzantine Lilly

August. and Stalks are faded; and wrap'd up in ſome damp Moſs.

When they come to the Place they muſt be planted immediately at four Inches Depth, and the Mould cloſed over them without preſſing it down.

The Seeds ſhould alſo in this Caſe be preſerved from the wild Plants, and ſcatter'd over the Ground: this will give a fair Chance for ſome Plants; the other is a Certainty. A graſſy Piece of a Border will have an odd Appearance in a Flower Garden, but there is no other Way of procuring a Succeſſion of the Plants. The Spot ſhould be choſen in ſome Part that is out of ſight in the general View of the Ground.

5. DOTTED CANNA.

Pl. 48. Fig. 5. We have given in the firſt Number of this Work, an Account of one Species of *Canna*, or as the common Writers expreſs it, *Cannacorus:* this is not leſs worthy the Attention of the Gardener. The Richneſs of Colouring in the Flower might very juſtly recommend that; and this the elegant Variegation.

The Authors who have lately written on Plants have all named it; they call it *Cannacorus flore luteo punctato:* Cannacorus with a yellow ſpotted Flower.

The Root is tuberous, irregular in ſhape, and hung with many Fibres.

The Leaves are very large, of a pale green, and oblong, but with a very conſiderable Breadth.

The Stalk is round, jointed, and a Yard high.

The Leaves on it reſemble thoſe from the Root, and are very large; lightly waved at the Edges, and pointed.

The Flowers are very elegant: they ſtand in a great Number at the Top of the Stalk, and are large, and of a delicate and fine gold yellow ſpotted with ſcarlet.

Each has a little three-leaved Cup.

The Body of the Flower is formed of one Petal cut deeply into ſix Segments, one of which turns down.

In the Centre ſtands a ſingle Filament reſembling one of the Segments of the Flower; and a ſingle Style grows to the Filament; and is alſo flatted, and crown'd with a narrow Head fixed ſideways.

The ſingle Filament and ſingle Style ſhew the Plant to be one of the firſt Claſs in the LINNÆAN Syſtem, and one of its firſt Section, the *Monandria Monogynia.*

The Seed-veſſel which ſucceeds the Flower is rounded and rough, and the Seeds are alſo round.

Culture of this CANNA.

The ready Way of propagating the Plant is by parting the Roots; but the Seeds ripen freely, and they grow with as much Eaſe.

This is greatly the preferable Method, and this we have given at large before.

6. CRIMSON BIZANTINE LILLY.

Pl. 48. Fig. 6. This is one of the lateſt of the Lilly Kinds, and one of the moſt elegant. The Form of the Flowers is the ſame with that of the *Chalcedonian Lilly* we deſcribed before, but they are larger, and the Colour is moſt ſingular: a deep bloody Crimſon.

We have acquainted the Gardener that Bigneſs or Colour are not to be conſider'd as Marks of a ſpecifick Diſtinction: he is therefore to underſtand this as a Variety only of that Kind before deſcribed; the Creature of ſucceſsful Culture. And though many of the old Writers have diſtinguiſhed it by peculiar Names, and particularly C. BAUHINE, under that of *Lilium purpuro ſanguineum flore reflexo:* the bloody purple reflex Lilly: he muſt refer it to the original *Chalcedonian* Kind, which we have before told him LINNÆUS calls *Lilium foliis ſparſis lanceolatis, floribus reflexis corollis revolutis:* lanceolate and ſcattered leaved Lilly, with the Flowers hanging down, and the Petals turning up again.

The Root is a large ſcaly Bulb, of a pale Colour, white, with ſome Tinge of yellowiſh.

The Stalk is round, rib'd, firm, upright, and of a pale green; not branched, and a Yard high.

The Leaves are very numerous, oblong, narrow, ſharp pointed, and pale.

The Flowers are numerous, and very elegant; they hang down on ſlender Footſtalks from the Top of the Plant, and the Segments all turn up again.

The Colour is a deep and glowing Crimſon; ſometimes ſimple, ſometimes ſpotted with riſing Dots of purple; in either caſe extreamly elegant.

The Filaments are ſix as in the common Kind, and the Style is ſingle; this refers the Plant to the *Hexandria Monogynia*, and in all other Reſpects it agrees alſo with the Structure of that Flower.

Its Culture requires no particular Direction: we have given at large that of the *Chalcedonian Lilly*; and from the Seeds of that, Plants of this robuſt Structure, will riſe, and with theſe crimſon Flowers.

When one of them is obtained, the Propagation is eaſy by Off-ſets; and they muſt be treated as in the other Kinds. The great Chance for the right Sort is from repeated Sowings, and thoſe large. The Trouble is not great, and the Advantage in this, as in all other Kinds, is certain.

CHAP. II.

The Care and Management of the Flower Garden.

WE have directed the taking off and potting of the Layers of Carnations, and the finer Kinds of Pinks and Sweet-williams in a preceding Number: that done, the Gardener is to look to thoſe of an inferior Kind, which are intended for the open Borders in the Flower Garden. Theſe will now be enough rooted to remove with Safety; and they may be either planted in the Borders, or in a Bed purpoſely dug in the Nurſery: it is equal which; for they are to be removed again at Autumn. The more regular Method is to plant them out in a Nurſery-bed; but they make no ill Figure upon the Borders, where there is now room enough; and they will ſtand the Winter the better, the leſs Space they have to be removed afterwards.

In this Method of planting them at once in the Borders, they will only need to be taken up and put in again when the Beds are dug up in *October*.

In this caſe they ſtrike root again immediately; and having no Check, they will flower much better the next Seaſon.

This is a very good Seaſon for removing the Roots of Lillies. Their Flowers in general are paſt, and the Stalks and Leaves faded; they will not bear to be kept long out of the Ground; and they muſt now be juſt taken up, cleaned, and planted again in freſh Mould.

It is high Time the Martagons and Crown Imperials were in their freſh Beds again: indeed if it have been neglected ſo long, 'tis better to let them remain where they are; for they will flower very weakly and ill, if taken up after they have formed the Bud, and begun to ſhoot again.

The Annuals in Pots will require frequent Waterings; and it will now be time for the Gardener to mark thoſe he intends for Seed.

Theſe muſt not be ſuffer'd to exhauſt themſelves by too many Flowers: they muſt be placed in a warm Spot, and removed under Shelter every Evening.

The Practice at this Time where there are Stoves, is to preſerve ſome of the finer and tenderer Kinds in them for Seed; but this Way the Plants want Air, and without that the Seeds will never become perfect.

The Method here directed is preferable: they will by this Means never fail to ripen Seeds, if they have been duly forwarded in Spring, and they will produce it in the higheſt Perfection.

SECT. II.

The Care of the SEMINARY, for this Week.

PREPARE Beds for the ſeveral Kinds of Flowers which we have directed to be rais'd in the open Ground in the Nurſery; from due Quantities of the proper Compoſts.

We have directed the making of theſe in treating of the particular Plants; and the longer they have lain in the Heap from the Time of their being firſt mix'd, the better.

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The Method of uſing them is to be the ſame in all Reſpects; and upon the due Choice of the Place, and Management of the Ground now, will in a great meaſure depend the Succeſs.

Let a large Quarter of the Seminary be ſelected for this Purpoſe: let it be open to the South Eaſt, defended from the North by a good Fence, and ſhelter'd moderately from the Noon-day Sun.

Let the Gardener divide it into as many Beds as he propoſes to raiſe Kinds of Plants; and let theſe be three Foot and a half broad, with ſmall Alleys between; and as long as will fit them for receiving the Seeds.

Let the Earth in each Bed be dug away half a Spade's Depth; and when this is removed, let the Bottom be very well broke up with a Pick-axe, and raked ſmooth, drawing off all large Stones and Clods. Then mark the firſt Bed by a number'd Stick fixed down firmly, and bring in the Compoſt for the Plant intended there to be raiſed. Let this riſe two Inches above the Level of the Alley, and rake it ſmooth.

In this Manner make up every Bed; the marked Stake ſerving for a Notice of the Plant.

When all the Beds are made up, let them lie five Days to ſettle; then draw off as much from the Surface as will ſerve afterwards to cover the Seeds a Quarter of an Inch, and ſcatter them on: ſift over them the Mould reſerved for that Purpoſe; and lay a Piece of a Whitethorn Buſh upon each to keep off Miſchief.

After this let them all be managed in the ſame Manner. Let them be gently water'd if at any Time the Mould be too dry; and when the young Plants appear, let them be kept clear from Weeds, and at Times alſo water'd.

So far the general Practice is the ſame; what relates to each in particular we have directed, and ſhall farther under the particular Heads.

Here it will be proper to add one general Caution more, which is, that the Gardener ſow a large Quantity of each Kind. A Bed of ten Foot long is as eaſily manag'd as one of five; and from the Quantity of Plants, he is to expect the great Advantages of Variety, and new Flowers.

All that will be farther required in the Seminary at this Seaſon, is good weeding; and when neceſſary, Waterings: theſe are fatiguing, but if withheld when thoroughly wanted, all the former Care is loſt.

SECT. III.

POMONA, or the FRUIT-GARDEN.

THIS Week it will be very proper for the Gardener to ſtir the Surface of the Mould about his Fruit Trees with the three-prong'd Fork.

We would not adviſe him to dig to any Depth, but only to break the Surface ſo far as will ſerve to deſtroy all Shoots of Weeds, and prepare the Mould for the Reception of Rains and Dews.

The Weeds muſt be raked off as ſoon as this is done; and unleſs the Seaſon be very dry, nothing more will be required.

The Care of decoying, and looking after the larger and ſmaller Inſects muſt be continued; and if in the Progreſs of this Attendance any Branch be again found out of its Place, it muſt be brought right and nailed down again; and if any of the ripening Fruit be left too defenceleſs, they muſt be ſhelter'd by Leaves from ſome other Tree.

This Week it will be proper in the ſame Manner once more to go over the Vines; both thoſe againſt Walls, and ſuch as are in the open Ground: there will be yet ſome uſeleſs and trailing Branches produced, and theſe muſt now be removed.

After this let all ſuch as are looſe from the Wall or Stakes be faſten'd; and when the whole is reduced thus far to order, let the Gardener look attentively over the Condition of the Fruit. He knows what Sun, and what Degree of Shelter each Bunch requires; and let him now take Care, by removing Leaves where there are too many, and bringing in others from more diſtant Places where there are wanting, to give to every Part this due Shade and Sun.

When the Trees themſelves are thus put in order, let the Ground be dug up about and between them: it will have been trampled in going among them for dreſſing; and Weeds will have begun to ſpring up among them, and about them upon the Borders.

This is a Seaſon at which the Fruit requires moſt Nouriſhment; and it would be ill Management to leave the Trees in a Spot exhauſted by Weeds, or hardened by Treadings. They want all the Nouriſhment the Ground can afford; and we have ſhewn on various Occaſions, that it is a great deal leſs that will be ſupplied by the ſame Quantity when the Surface is hard; than when it is kept ſoft and broke by Culture. The Effects of Sun and Air fertilize it, and Dews and Rains are received more freely, and detained better upon it when broke; as alſo thoſe Waterings which exceſſive Drought may render neceſſary.

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SECTION IV.

CHLORIS, or the KITCHEN-GARDEN.

WEeding and Watering will find the careful Gardener a great deal of Employment this Week in his Kitchen Ground. All the Nouriſhment the Soil can afford will be required for the forwarding of the Crops, and the more as there is leſs Rain.

In thoſe Kinds where the Rows are diſtant, and the Spade can come between, nothing will anſwer like digging; and in that let the Gardener ſee that it is done effectually: that the Spade go its whole Depth, and that the Mould be very well broke.

As to the Weeds which are thrown off in the digging, they may be buried under the Mould, leaving a little Trench for that Purpoſe all the Way; for the Care before taken leaves no Opportunity of the perennial Kinds being there, and the Annual will never riſe from underneath.

Cauliflowers Seed naturally ſucceed very well this Week, and a ſecond ſowing ſhould be made about ten Days after.

The Plants riſing from the firſt will be fit for the Hand Glaſſes; and ſome of them may be planted under warm Walls: thoſe from the ſecond ſowing will be proper to raiſe under Frames during the Winter. If the firſt run up to Seed in Spring theſe will ſupply the Place; and ſuppoſing all to ſucceed, it only gives two very good Crops.

This Week alſo dig up ſome warm Pieces of Ground, under Walls and Pales for Lettuce Seed. Let it be ſown with a ſparing Hand; and when the young Plants riſe, let them be very well watered and weeded: the Cabbage and brown Dutch Lettuce will ſucceed very well in this Manner; and the Cos ſometimes.

If the Winter prove ſevere, there is great Hazard of this laſt Lettuce in the open Ground, but it is worth the Chance of trying; and, in general, a Reed-hedge ſet ſloping will preſerve it.

Corn Sallet ſhould be ſown this Week for the Service of the ſucceeding Spring: it lies a great while in the Ground; and takes the firſt Growth ſlowly.

If the Seed ſaved from the Plants of the preſent Year be kept till the ſucceeding Spring, it is a great Chance whether it ſucceeds; but if ſown freſh in this Time of the Year, however long it lies in the Ground, the Gardener needs not entertain any Doubt of its coming up.

Fennel is a very uſeful Herb in the Kitchen Garden, and there is no Time of the Year when it ſucceeds better than at this Seaſon of ſowing.

Let the Gardener after this go over his Beds of the Onion Kind: the Leaves of the Schalots and Rocambole will decay, and this is his Notice for taking them up. This alſo is the Time for taking up of Garlick, which ſhould be very carefully aired and hardened for keeping.

The Artichokes will require dreſſing, for they will now begin to ſhew their Fruit from the laſt Spring Plantation. A Number of Suckers will naturally be produced from the Sides of theſe healthful Plants; which, if not taken off, will impoveriſh and drain the Nouriſhment from the more perfect Fruit at the Tops of the Plants.

Let all theſe be taken off in Time; and when that is done, let the Weeds be deſtroyed: the beſt Way is by digging between the Rows with the Spade.

We have directed the planting them at ſuch Diſtances that this can be done with Eaſe, and the Advantage of the Fruit will be very obvious.

This Week the Brocoli Plants which were removed five Weeks ago out of the Seed-bed ſhould have their laſt Removal, and be ſet with Care in the Places where they are to remain: watering them duly till they have taken root.

Finally, this Week let the Gardener gather with Care ſuch Seeds as are ripe, and ſpread them upon Mats to dry, turning them from time to time; and when they are dry in the Pods, rubbing them out, and ſpreading them once again to harden.

EDEN:

A

COMPLEAT BODY of GARDENING.

* * *

NUMBER XLIX.

For the laſt Week in *AUGUST.*

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SECTION I.

FLORA, or *the* PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

I. GOLDEN PERENNIAL MOTHMULLEIN.

Auguſt.

Pl. 49. Fig. 1.

FEW *Engliſh* Plants exceed the common *Mothmullein,* an annual, and but of moderate Stature: this, which is a Native of the warmer Parts of *Europe,* has all its Elegance, with a perennial Root, and larger Growth. The earlier Writers have not been acquainted with it; nor does it ſtand aſcertained diſtinctly in the lateſt.

MORISON calls it *Blattaria perennis folio verboſo flore amplo luteo:* perennial Mothmullein with a Mullein Leaf, and with large yellow Flowers.

LINNÆUS does not admit the Diſtinction of *Mullein* and *Mothmullein* into two Genera: he comprehends the *Blattaria* under the Head *Verbaſcum,* but he has not characteriſed this Species. It will be proper to call it *Verbaſcum foliis latis glabris amplexicaulibus perenne:* perennial Mullein with broad ſmooth Leaves encompaſſing the Stalk.

The Diſtinction of the *Blattaria* and *Verbaſcum* was always ſlightly founded, and ill underſtood. The *Roman* PLINY, calls *Blattaria* a Plant, which had great Reſemblance of *Mullein,* but had ſmoother Leaves; whence it appears that he probably meant by *Blattaria,* what we call *Black Mullein:* RAY, who preſerves the Diſtinction, gives the Roundneſs of the Seed-veſſel as the Character; but that is uncertain. The *Blattaria* and common *Mullein* are ſo diſtinguiſhed, but the Difference in thoſe is ſlight, and in ſome of the others it is entirely loſt.

Auguſt.

The Gardener will beſt underſtand the Diſtinction in the Size of the Flowers, thoſe of the *Mothmulleins* being larger than thoſe of the *Mulleins*; and in this reſpect not one of the Plants ſo called can be compared with the preſent.

The Root is long, thick, brown, and penetrating very deep, and hung with many Fibres.

The firſt Leaves are a Foot and half long, moderately broad; of a deep green, and waved and indented about the Edges.

The Stalk is round, firm, upright, and ſix Foot high: it is rib'd; of a pale green, often ſtained with purple, and is thick covered with Leaves.

Theſe are oblong and large; broad at the Baſe, narrower all the way to the Point, irregularly indented at the Edges, and of a deep green; with broad pale Veins; ſmooth on the upper and under Side, and riſing upwards in an acute Angle.

August.

The Flowers ſtand along the upper Part of the Stalk, forming a Spike of two Foot in Length; and whether open or in the Bud, they are extreamly beautiful when full blown. They are of the Bigneſs of a half Crown, and their Colour is a perfect gold yellow; with a mixed yellow and purple Thrum in the Middle, and golden Buttons.

The unopened Flowers have ſomething of a purpliſh Tinge upon the yellow, and ſtand in their green Cup as ſo many Lumps of Gold.

The Cup is formed of a ſingle Piece, rounded, and ſwelled at the Baſe, and thence divided into five long Segments, broadeſt at the Baſe, ſharp pointed; of a fine deep green, and edged with whitiſh Hairs. They are of a firm Subſtance, and ſtand a little expanded: they reſemble in Miniature ſo many Aloe Leaves.

One Petal forms the Body of the Flower, but it is deeply cut into five Segments: the tubular Part is ſmall, and firm; the Segments are broad, rounded at the Ends, and elegantly waved along the Edges.

In the Centre ſtand five purple Filaments, long, conſiderably thick, elegantly fringed at the Baſe; with long purple Hairs, and crowned at the Top with roundiſh Orange coloured Buttons.

The purple feathering of the Baſes of theſe Filaments is very elegant, and forms the Tuft from which they ſeem to riſe. The Filaments themſelves are irregular in Length. The Heads of three of them ſeldom riſing above the feathered Part; whereas the Bottoms of the others are ſupported on naked Footſtalks, as it were, of equal Length with the bearded Part.

The Rudiment of the Seed-veſſel lies in the Bottom of the Cup: the Style which riſes from it is ſingle, and a little longer than the Filaments, and the Head is an obtuſe Knob.

The Seed-veſſel which follows each Flower is roundiſh, and contains in two Cells numerous angulated Seeds.

The five Filaments ſhew the Plant to be one of the *Pentandria*, the fifth Claſs of Linnæus; and the ſingle Style declares it one of the *Monogynia*.

Culture of this MOTHMULLEIN.

The Plant is a Native of *Spain* and *Italy*, and of the South of *France*. It flouriſhes beſt in a deep and not over-rich Soil, where there is little Shade or Shelter.

August.

This muſt be the *Engliſh* Gardeners Rule for its Culture. The Root being long and ſingle, does not well bear parting to multiply the Plant; therefore the Method muſt be to raiſe it from Seed: nor does it any better bear Removal; for which Reaſon the Seeds muſt be ſown, not in the Nurſery, but where the Plants are to remain.

A Part of the Garden ſhould be choſen which is ſheltered from cold Winds; and a lean Compoſt brought into the Place.

Let the Mould be dug away full two Spades Depth, and the Bottom broke at that Depth with a Pick-axe.

Let a Mixture of three Parts dry Paſture Earth, and one Part of old Wood-pile Mould be thrown into the Place; and on this in the Beginning of *September* ſcatter the Seeds ſaved from a ſtrong and flouriſhing Plant, and hardened with that Care we have directed on other Occaſions.

Let a ſixth of an Inch of the ſame Compoſt be ſifted over them; and a Thorn Buſh laid upon the Place to prevent Accidents, till the Plants are come up.

When it is ſeen which will be the fineſt and ſtrongeſt, let the others be taken up, and as many of theſe left as can ſtand at two Foot Diſtance from one another.

Theſe are never to be taken up, or removed. They muſt be watered at Times, and kept clear from Weeds; and when they riſe to Stalk, they ſhould be tied up two-thirds of their Length to firm Stakes: theſe will be hid among their numerous Leaves, and the Spike of Flowers will be much the longer and ſtronger for this Security.

The Roots are very laſting; but they do not flower ſo perfectly after about four Years; wherefore the Gardener ſhould always make a Reſerve for that Time.

The Seeds which ſhould be ſuffered to fall the third Year, will produce many young Plants upon the Bed; and the fineſt of theſe ſhould be ſaved in their Places at proper Diſtances, pulling up the other young Plants, and alſo the old ones.

2. DOUBLE TRACHELIUM.

l. 49.
g. 2.

This is a very elegant Effect of Culture on a native *Engliſh* Plant. We ſee by other Inſtances that there are wild Flowers in our Hedges which are admired when brought into the Garden, and that they are capable of the ſame Improvement for which we value thoſe of remote Regions. This ſhould be a Leſſon to the curious Gardener to enlarge his Store by a new Method, by better obſerving Nature.

All the old Writers name this Plant; and tho' it grew neglected by Road Sides, covered with unregarded Dirt, yet in the ſingle and common State, unaltered from the Hedge, it is an admired Plant in Gardens. In this ſingle State they call it *Trachelium majus*, and *Trachelium aſperum majus*; to this others add, *flore purpureo:* great rough Throatwort with purple Flowers.

C. Bauhine rejecting the Diſtinction, which is indeed ſlight and frivolous between the *Throat-wort* and *Bellflower*, calls this *Campanula foliis urticæ:* the Nettle-leaved Bellflower: and many follow him.

LINNÆUS pays no more regard to the Diſtinction than it deſerves. He ranks the *Trachelia* of thoſe Authors with the *Campanula*, in one Genus; and he adds as the Diſtinction of the preſent Species, *caule angulato, foliis petiolatis, calycibus aliatis pedunculis trifidis:* ſquare ſtalked Campanula, with Footſtalks to the Leaves, with edged Cups, and trifid Footſtalks to the Flowers.

The Diſtinction between *Trachelium* and *Campanula*, in thoſe who have made it generical, is only in the Hairyneſs or Smoothneſs of the Leaves.

The Student very well knows this is no generical Character, and will juſtify at firſt Sight C. BAUHINE in that Sentiment which LINNÆUS has confirmed.

This Plant, which is the principal of thoſe called Throatworts, is of a rough and forbidding Aſpect till it blows; but then it immediately changes the wild Look, and puts on the Aſpect of a Flower.

The Root is long, white, eſculent, and well taſted, and is hung with many Fibres.

The Stalk is two Foot and a half high, ſquare, upright, firm, though hollow; hairy, and of a pale green, tinged on the riſing Edges with purple.

The Leaves ſtand frequent, and in an alternate Order. They are large, rough, and of a deep unpleaſing green; naturally tinged with ſomewhat of brown, and often with purple. The lower ones have long Footſtalks, thoſe on the upper Part of the Stalk ſhorter: all are broad, ſharp pointed, and ſharply indented.

The Flowers are extreamly numerous and elegant; they cover all the Tops of the Branches, riſing from the Boſoms of the upper Leaves, three upon every Footſtalk; the Footſtalks being divided for that Purpoſe by Nature, each into three Parts.

In the plain and ſimple State of the Plant they are very large, bell-ſhaped, and of a delicate violet blue: but from Accidents of Growth and Nouriſhment, they will vary from this deep and perfect blue into many Degrees of purple, red, fleſh colour, and abſolute white.

In the Garden they have alſo all theſe Changes, but the moſt glorious Appearance they make there is in the double State we have repreſented in the annexed Figure.

In this ſpecious Form they are ſubject to all the Variations of Colour we have named in regard to the ſingle Kind. They will be violet coloured, purple, crimſon, fleſhy and white: in all Conditions they are elegant, but in none ſo fine as in the moſt natural State, which is the full and fine blue.

To find the Claſs and Place of the Plant in the LINNÆAN Syſtem, we muſt refer the Student to the ſimple State of the Flower. The Parts are often irregular and diſturbed in the double Kind. He will find the Cup formed of one Piece, divided into five pointed Segments, edged delicately with firm Hairs, and placed upon the Rudiment of the Capſule.

The Body of the Flower is formed of a ſingle Petal; it is large, hollow, and unperforated at the Baſe. The Rim is divided into five Segments, which naturally expand.

In the Bottom of the Hollow are five convergent Valves; theſe cover the upper Parts of the Receptacle, and they are the Nectarium of the Flower.

The Filaments are five, they are very ſhort and ſlender, and they riſe from the Tops of the Valves which form the Nectarium: they are terminated by long Buttons of a compreſſed Form.

Theſe ſurround a ſingle long Style which riſes from the Rudiment of the Seed-veſſel, and is terminated by a three-parted Head, whoſe Segments turn back.

The five Filaments refer the Plant to the *Pentandria* of LINNÆUS, and the ſingle Style to the *Monogynia*; the fifth Claſs of that Author, and its firſt Section.

Each Flower is followed by a rough Seed-veſſel, containing numerous ſmall Seeds.

Culture of this TRACHELIUM.

We have obſerved that the Plant is a Native of our own Country: no particular Shelter or Defence therefore can be required for it in Gardens. The great Care muſt be to follow Nature's Courſe in allowing it a freſh, but not rich Soil, and ſome Shelter.

The Root is perennial, and the Plant may be propagated by parting it in Autumn: but to raiſe all the Varieties, and ſhew them in Perfection, as in all other Caſes, the true Method is to begin from the Seed.

This is of abſolute Neceſſity in regard to the Generality of the *Campanula's*, for they are only biennial Plants. This, if the Seed be not ſuffered to ripen in ſo large a Quantity as to exhauſt the Root, will live many Years, but 'tis never ſo fine as the firſt Seaſon.

The Seeds muſt be ſown in the Nurſery, and once removed from the Seed-bed before they are brought into the Garden.

Let Seeds be ſaved with Care from double Flowers, if they ripen well, as they ſometimes do; and alſo from ſome of the fineſt of the ſingle flowered Plants. Let them be well hardened in, and out of the Pods; and finally, tied up in ſmall Parcels, in Paper Bags, and hung in the free Air of the Seed Room during Winter.

In the Beginning of *October* let the following Compoſt be prepared: Mix a Load of freſh and dry Paſture Earth with three Buſhels of Pond Mud; the ſame Quantity of Sand, and the ſame of Chalk: break the Chalk ſmall, and mix it well with the reſt, by turning the Heap once in ſix Weeks.

In the Beginning of *April* chuſe a ſhady Part of the Nurſery; and digging out the Mould for a ſmall Space half Spade deep, fill up the Place with ſome of the Compoſt.

On this ſcatter the Seeds, and water the Bed if Showers ſhould fail.

When the Plants come up thin them, and keep them weeded, and often watered. Seven Weeks after they firſt appear they muſt be tranſplanted. To this Purpoſe chuſe a Spot more expoſed than the firſt, yet not wholly deſtitute of Shelter; and digging up ſo much of it as will hold the Plants at five Inches Diſtance, put more of the Compoſt in the Place. Draw Lines for the regular Plantation, take up the Plants with Balls of Earth about the Roots, and ſet them carefully, cloſing the Mould about them at the Surface, and picking off dead Leaves.

Let this be done in the Evening of a cloudy Day; and let the Plants be conſtantly watered till they have taken root.

In this Bed they are to remain till the ſecond Week in *September*.

Then chuſe a Spot in the Garden which has a good deal of Sun, but is ſheltered from the mid-day Heat; and putting in the Compoſt, ſet the Plants with great Care at a Foot aſunder. They muſt be watered and kept clear from Weeds, and they will flower in their higheſt Perfection.

The Plants ſhould have more Diſtance than this will at firſt allow, but it will come in courſe. When they begin to ſhew their Flowers, thoſe of an inferior Kind muſt be pulled up, and this will give the others due Diſtance. There will be all the Varieties we have mentioned from the ſucceeding Sowings, and theſe ſhould be repeated every Year: but where there are Flowers finer than ordinary, they ſhould be preſerved as Perennials. For this Purpoſe the Stems muſt be cut down as ſoon as they have flowered, not leaving any Pod of Seed to ripen; and in Autumn they muſt be tranſplanted, and, if large enough, parted for farther Propagation.

3. NETTLE LEAVED SIBERIAN PHLOMIS.

Pl. 49. Fig. 3.

We have ſet out with the Principle of recommending to the Gardener ſome Plants for Curioſity, with the more common Multitude raiſed for their Beauty. This is one of thoſe Inſtances; a very Weed, when ſeen with a curſory Regard; but on a nearer View, full of Singularity and Elegance. It is one of the *Siberian* Acquiſitions, and the old Writers had not Opportunities of knowing it.

Buxbaum has deſcribed it under the Name of a Hedge Nettle, adding as its Diſtinction, *maxima foliis hormini*: great Galeopſis with clary Leaves: by the more accurate it has been invariably refered to the *Phlomis*. Amman calls it *Phlomis foliis urticæ glabra*: the ſmooth Nettle leaved Phlomis. Linnæus more correctly, *Phlomis involucris hiſpidis ſubulatis, foliis cordatis ſcabris, caule herbaceo*: Herbaceous Phlomis with hairy pointed Involucra, and rough heart-ſhaped Leaves.

The Plant when well nouriſhed is ſeven Foot high, full of Branches, and covered with innumerable Flowers.

The Root is thick, irregular, pale, and hung with many Fibres.

The Stalk is ſquare, ſolid, very firm, and naturally purple. It riſes very erect, and ſends up Branches from the Boſoms of all the Leaves.

To ſhew the Plant in its full Beauty, one Shoot ſhould only be nouriſhed from each Root, and this will be a kind of Pyramid, the Branches beginning from the Bottom, and ſhortening to the Top.

The Leaves are placed in Pairs: they are oblong, broad, ſharp pointed, and indented deeply at the Edges. They are uneven on the Surface, of a deep green on the upper Part, and paler, but ſmooth below.

The Flowers terminate all the Stalks and Branches in round Tufts: of which, one the moſt conſiderable, covers the Summit, and others ſurround the Stalk at every Joint for ſix, eight, or ten Stages.

Each Cluſter is of the Bigneſs of a Walnut, rounded, but ſomewhat depreſſed, and is ſurrounded at the Baſe by an Involucrum of many narrow briſtly Leaves.

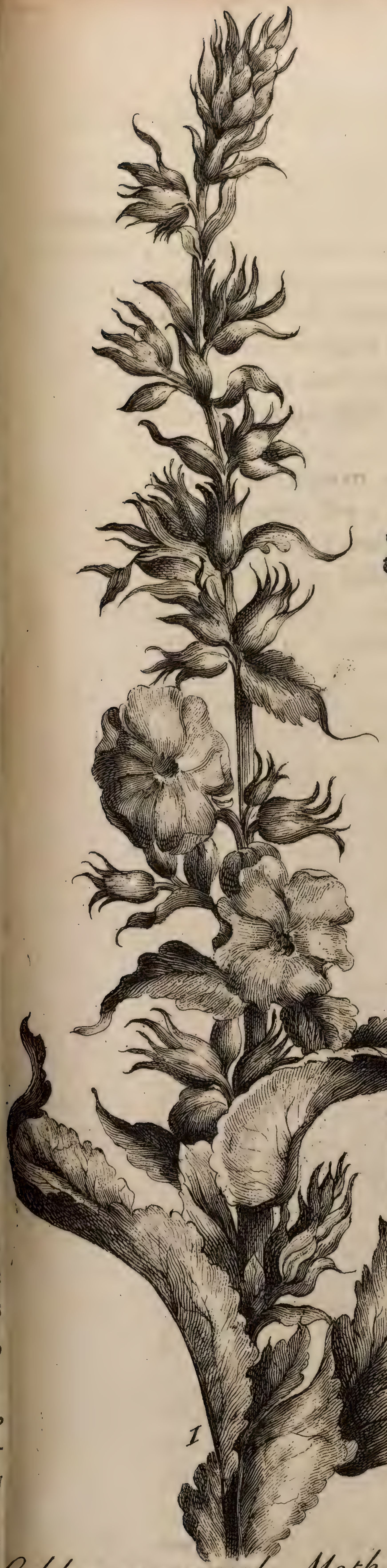
The Cups form the Body of the Cluſter, and are cloſe ſet together, and green: the Flowers themſelves are moderately large, of a very delicate pale crimſon, and hairy. This is the general Aſpect, but the Student will find them well deſerving a more ſtrict Attention.

The Cup is formed of a ſingle Piece, tubular, long, and marked with five Ridges, waved at the Edge, and terminated by five pointed Segments, hairy like the Parts of the Involucrum.

The Flower is formed of one Petal; and is of the gaping Kind. The tubular Part is long, ſlender, and white.

The Body which ſhews itſelf out of the Cup is divided into two Lips. Of theſe the upper is large, arched, drawn down, and of an oval Form. The lower Lip is divided into three Parts, of which the middle one is largeſt, and moſt obtuſe; and is a little ragged at the Verge.

The Colour of the upper Lip is that delicate Crimſon we have deſcribed: the Edges of it are waved, and the whole covered with a fine downy white Subſtance. The lower Lip is paler, nearly white, but it is marked with fine delicate deep crimſon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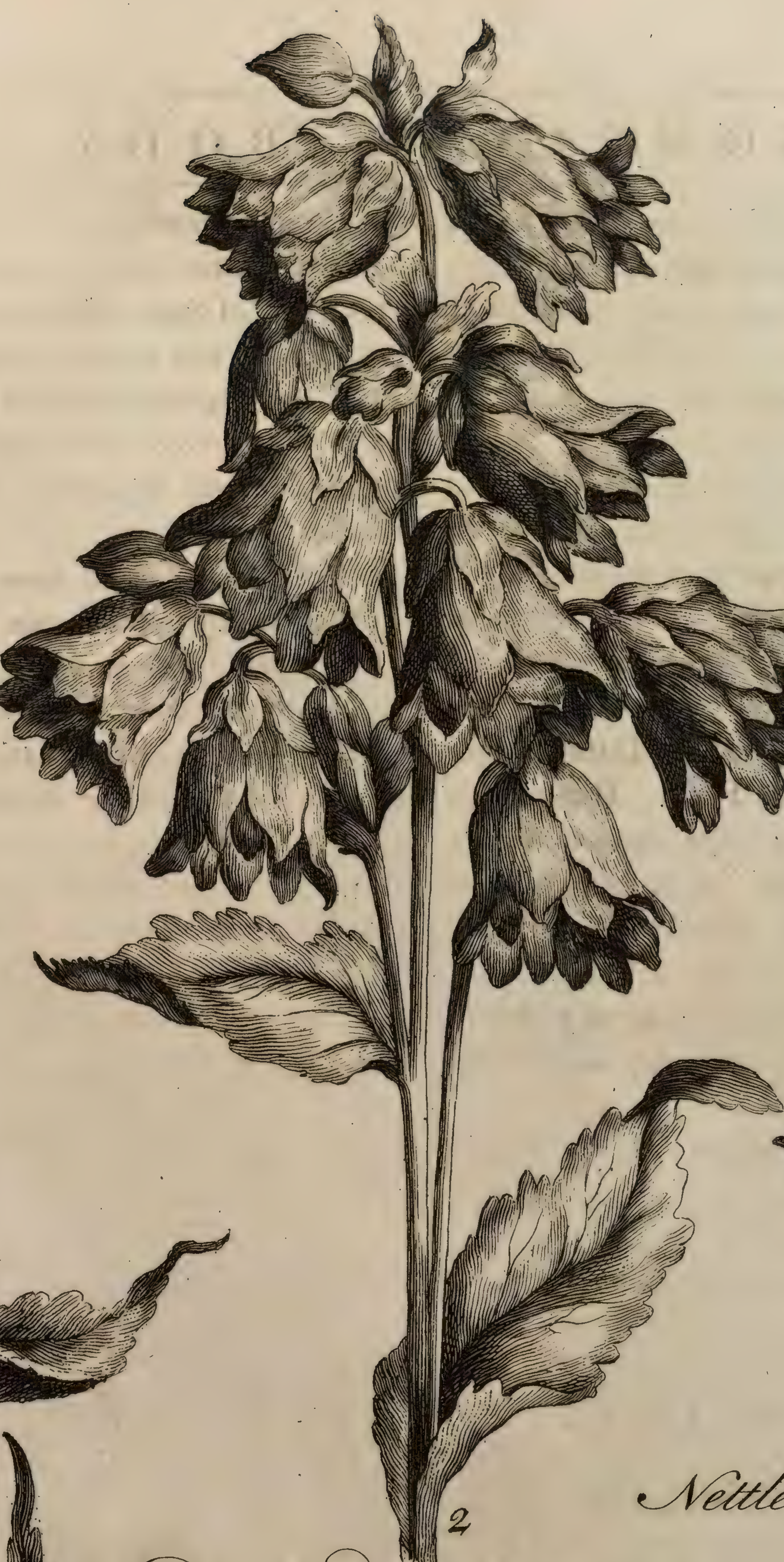
Golden perennial Moth Mullein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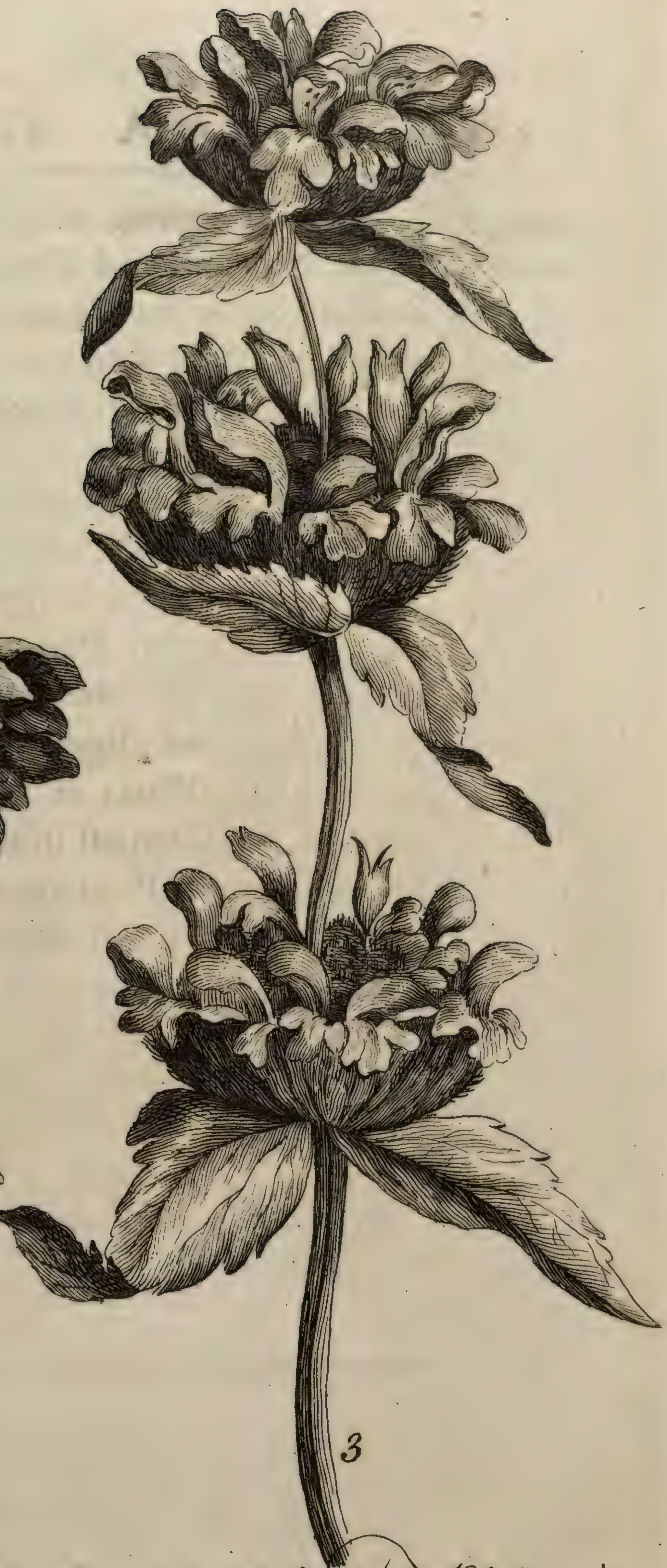
Double Trachelium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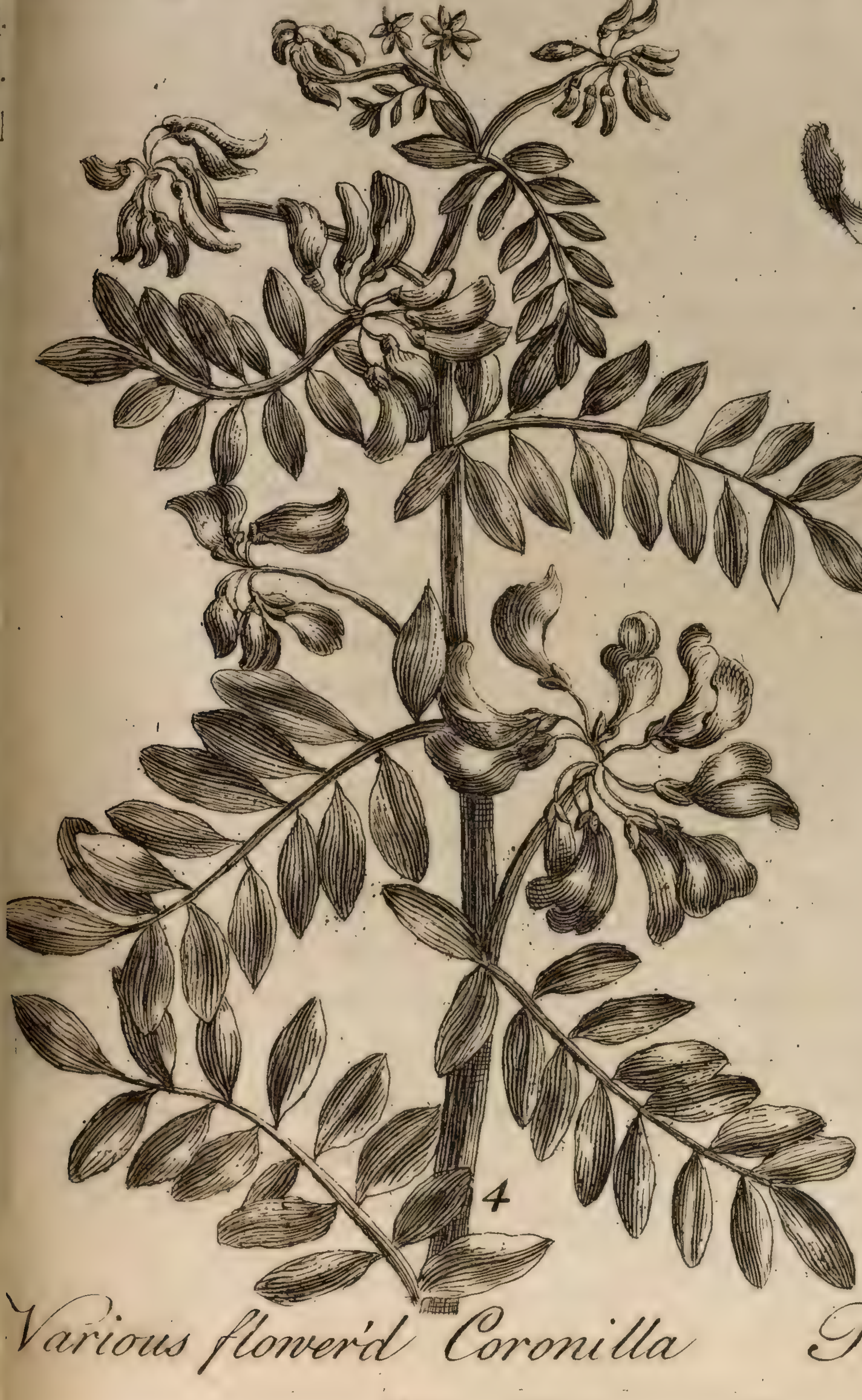
Nettle leav'd Siberian Phlomis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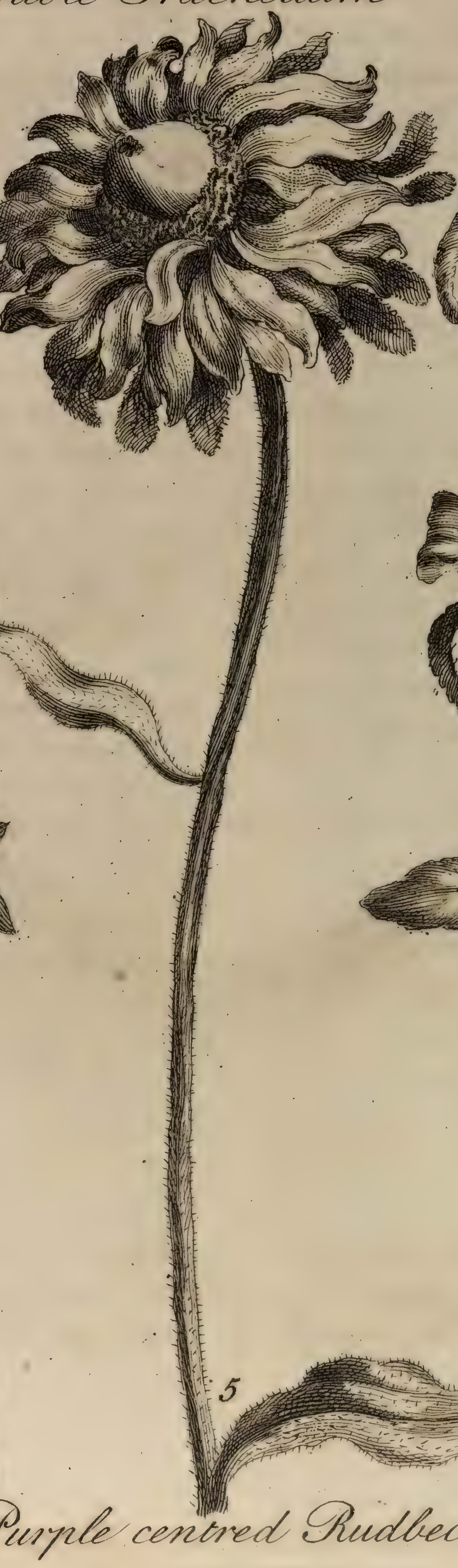
Various flower'd Coronilla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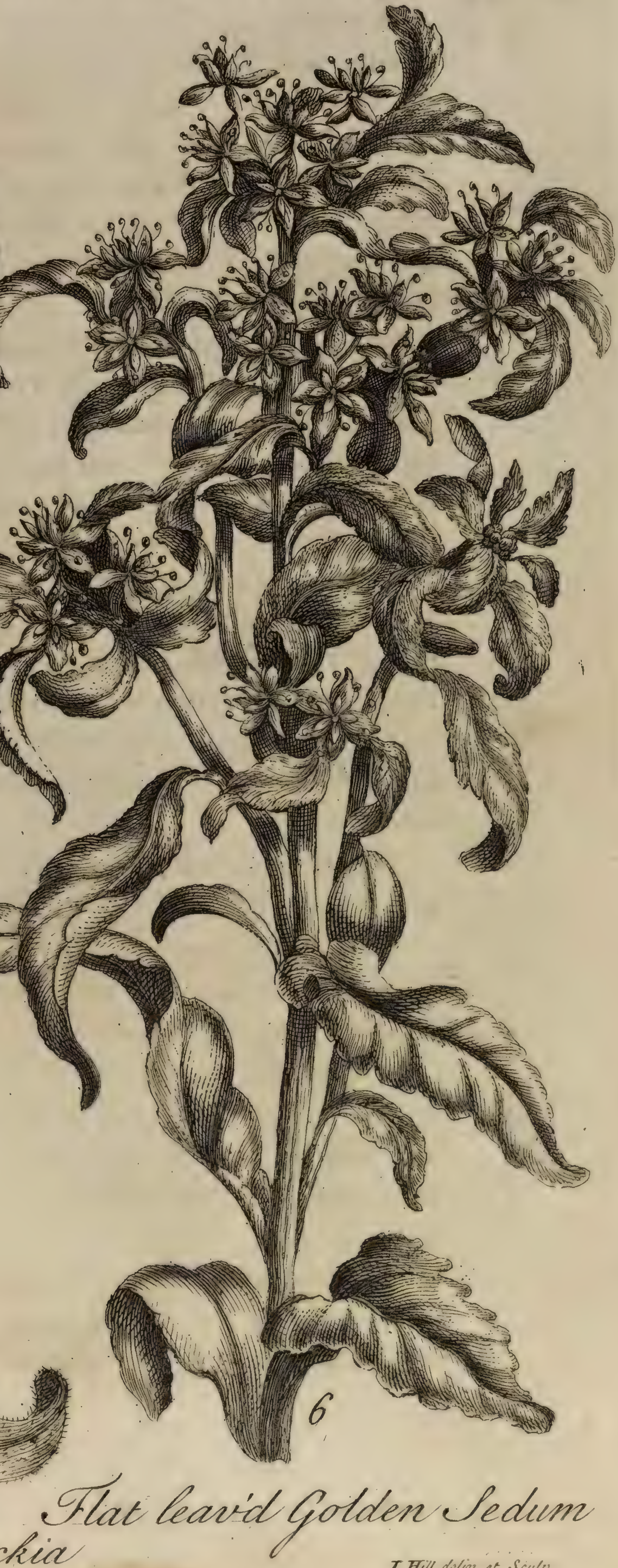
Purple centred Rudbeckia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Flat leav'd Golden Sedum

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crimſon Lines, three longer in the middle, two ſhorter at the Sides.

The Filaments are four; they are ſituated under Cover of the upper Lip, and two of them are longer than the others: they are terminated by oblong Buttons.

In the Centre of the Flower riſes a ſingle Style from a four parted Rudiment of a Fruit, this ripens into four diſtinct Seeds, which lie without any Defence in the Bottom of the Cup.

When the Filaments in a Flower differ regularly in Length, that Diſproportion is the Mark of the Claſs; the two longer Filaments refer this Plant to the *Didynamia*.

The Subdiſtinctions in that Claſs are founded on the Diſpoſition of the Seeds: They are naked in this Plant, and the Section to which it belongs is therefore that of the *Gymnoſpermia*.

Culture of this PHLOMIS.

It is a hardy, perennial rooted Plant, and will live in almoſt any Soil or Situation; but the moſt favourable is a South eaſt Expoſure, and a mellow Earth. The Roots encreaſe faſt, and it may be propagated by parting them in Autumn: the Seeds ripen very well with us, and grow freely, but there is no Advantage in raiſing the Plant that Way, for there is no Variation in the Flower expected; and therefore there will be no Benefit from the ſowing.

Let the Bed be dug deep, and about one third of Pond Mud mixed with the Mould. In this let the parted Roots be planted in the Beginning of *October*, allowing them a Yard Diſtance, and covering them up an Inch; they will require no farther Care but weeding and watering when they ſhoot up to Stalk: but they ſhould every Autumn afterwards be taken up and reduced to a due Size; and the Border very thoroughly and deeply dug.

4. VARIOUS FLOWER'D CORONILLA.

Pl. 49. Fig. 4. This is another of the weedy Plants to which Curioſity rather than Beauty muſt give a Place in the Garden: but although it have nothing of the Luſtre of the nobler Flowers, the pleaſing Irregularity of its Growth, the vaſt Quantity and long Succeſſion of its Bloom, plead for its Admittance; and with theſe its eaſy Culture.

The Generality of Authors have been acquainted with it though under various Names; C. BAUHINE calls it *Securidaca Dumetorum:* the Hatchet vetch of the Thickets; and CLUSIUS before him, and many after him, have called it by the ſame Name. Others have called it *Colutæa herbacea*; but all have added *Flore vario*, from the pretty Variety and Mixture of Colouring in the Flower. The later Writers have univerſally named it *Coronilla*; and LINNÆUS, who adopts that generical Term, adds to diſtinguiſh this Species, *Herbacea leguminibus erectis teretribus toroſis numeroſis foliis glabris:* ſmooth leav'd herbaceous Coronilla, with numerous, erect, rounded, and knotted Pods.

The Root is perennial, creeping, and hung with many Fibres; it has a white woody Pith, and is of a bitteriſh Taſte.

The Stalk is round, weak, ridged, and often twiſted; the Colour is a pale green: it keeps but poorly erect, and is loaded with many Branches.

The Leaves are placed alternately, they are pinnated, long, and of a pale green: the Pinnæ are oblong and obtuſe, and eight or ten Pair uſually ſtand on each Rib with an odd one at the End.

From the Bottoms of all the Leaves riſe Footſtalks, ſupporting Cluſters of Flowers. Theſe are ridged like the Stalk, and are three Inches long; the Crown of Bloom, which terminates each, is an Inch in Diameter; it is compoſed of numerous Flowers, ſupported on ſlender Footſtalks, all riſing from one Point at the Head of the general Stalk.

The Flowers are papilionaceous; and their various Colouring, ſo much celebrated by the botanical Writers, conſiſts of a delicate crimſon and white. The Vexillum, or upper Petal, is of the moſt delicate Crimſon, the Alæ and the Carina are white, with a very little Tinge of red; and the whole Flower not only varies in this Reſpect paler, deeper, and more or leſs variegated upon ſeparate Plants, but on the ſame Plant in its various Stages of Perfection or Decay.

The Botaniſt, examining the Flowers more accurately, will find each has its Cup form'd of one Piece ſplit into two Parts, and ſomewhat compreſſed.

The Body of the Flower is compoſed of the proper papilionaceous Parts, Vexillum, Alæ, and Carina. The Vexillum is heart-ſhap'd, and turn'd back each Way at the Edges. The Alæ are oval, and of the Height of the Vexillum, obtuſe, clos'd together upwards, and open below. The Carina is compreſſed, and turned upwards.

The Filaments are ten, nine of theſe unite into a Body in the under Part, and the tenth is looſe. This the Student knows is the Character of the *Diadelphia* of LINNÆUS, and the Number of the Filaments places it under the *Decandria:* the Subdiviſions in this Claſs being named from the Number of the Filaments, which is in others the claſſical Character itſelf.

Culture of this CORONILLA.

The Plant is a Native of *Germany*, and moſt other Parts of *Europe*, where it lives in the worſt Soils, and never thrives ſo well as when among Buſhes.

Let this guide the Gardener in its Culture, in which more Care will be required to keep it within Bounds than to make it grow. Any unfavourable Part of the Garden may be allotted for it; the beſt will be on the Side of ſome Wilderneſs Quarter; and it ſhould be raiſed from Seed in the Place where it is to continue.

The Seeds ripen in *Auguſt*, and muſt be ſown in *April*; when the Plants come up they ſhould be thinn'd to two Foot Diſtance; and after this, every Year, taken up in *October*, and reduced to a due Compaſs, for otherwiſe they will quickly over-run a very large Extent of Ground.

5. PURPLE CENTERED RUDBECKIA.

Pl. 48. Fig. 5. There is a great deal of Beauty as well as Singularity in this Plant; and its eaſy Culture farther recommends it.

The old Writers could not know it; for it is Native only of *America*; but all have ſpoke with great Praiſe of its Flower, who wrote ſince the Time when Science travelled into that new World. PLUKENET makes it a *Cryſanthemum*, and adds, *Helenii folio umbone grandiuſculo:* Elecampane leav'd Chryſanthemum with a large Diſk; and his Name, MORISON and RAY have copied. Under the Deſcription of DILLENIUS it obtained the Name *Obeliſcotheca*, with the Addition of *Integri-folia radio aureo umbone atrorubente:* Obeliſcotheca with undivided Leaves and golden Rays ſurrounding a blackiſh purple Diſk.

We have before told the Student, that LINNÆUS has given RUDBECK's Name to the *Oboliſcotheca's*; he adds, as the Diſtinction of this Species, *Foliis indiviſis ſpatulato-ovatis radii petalis emarginatis:* Rudbeckia with undivided Leaves, and the Rays nipp'd at the End. This Name is more accurate and ſcientifick; but that of DILLENIUS is more expreſſive.

The Root is thick, and hung with many Fibres.

The Leaves riſe in great Numbers, and have long, hollowed Foot-ſtalks; they are oblong, moderately broad, wav'd at the Edges but very little, and obtuſe; their Colour is a duſky green, and they are covered with ſhort ſcattered Hairs, ſo ſtiff that they ſeem prickly. Theſe Hairs are white, and the Ribs on the Leaves are pale.

The Stalks are numerous, and two Foot high, red toward the Bottom, naked two thirds of their Length, towards the Top; round, ridged, and covered with the ſame briſtly Hairs. The Leaves on the lower part have no Footſtalks; they reſemble thoſe from the Root, and they have the ſame rough Hairs.

At the Top of each Stalk ſtands one Flower very ſingular and very elegant; it is of the radiated Kind, but with a conſpicuous and prominent Diſk. The Rays are long, and of a gold yellow, the Diſk is of a deep purple.

The general Cup is compoſed of numerous long Leaves, hairy as thoſe of the reſt of the Plant, and diſpoſed in two or more Series. The Rays are about fourteen in Number; they are long, narrow, of a fine gold Colour, and nipp'd at the End. The Floſcules in the Diſk are cut into five Segments at their Top, and they have five ſhort Filaments, with convergent Buttons; forming a Cylinder.

The Coaleſcence of the Buttons in this Form ſhews the Plant to be one of the *Syngeneſia*; and as the Seeds do not ripen under the Rays or female Flowers, it belongs to that Subdiviſion called *Polygamia fruſtranea.*

Culture of this RUDBECKIA.

The Plant is a Native of *Virginia*, and many other Parts of *America*, and is there found in open Places, where there is a great deal of Sun, and a deep, light Soil. With us it will live very well in the open Ground in a well choſen Spot; and ripen its Seeds.

This is an Article of great Importance; for though the Plant may be very well propagated from partings of the Root, it never flowers ſo well as the firſt Seaſon; which is, when rightly managed, the ſecond Year from the ſowing.

Let the Gardener not grudge the little Attention which is needful to this Plant, ſince on that depends its Beauty.

If the Spot be ill choſen, it will ſcarce open its Flowers; but in a good Expoſure they will ſucceed one another in a long Succeſſion, and each of them will be of a Duration ſcarce to be equal'd in other Kinds, ſix or ſeven Weeks in full Beauty.

Let a Mixture be made of equal Parts, Paſture Mould and Pond Mud, add to this about one tenth Part of Lime, and throw it all in a Heap in Autumn.

Let a Plant which ſtands in a warm Expoſure be marked for Seeds, and let the firſt Flower that opens be tied up to a Stick, for that Purpoſe, in two or three Places of the Stalk, that it may ſtand the whole Time of its Bloom undiſturbed by Winds.

When the Seeds are hard in this, cut off the Head, lay it ſideway on a paper'd Shelf, and turn it once in three Days; when the Seeds are thoroughly dry'd ſeparate them, and ſpread them abroad to harden: after ten Days put them up in a paper Bag, and faſten it to a Line drawn acroſs the Seed Room as the others. In the Spring following theſe are to be ſown, and, after one Removal, brought into the Garden for flowering the next Year.

Let a Part of the Nurſery be choſen open to the South Eaſt, and dig out the Mould half a Spade Depth in the middle of *April*. Fill up the Place with the Compoſt, and ſcatter on the Seeds: ſift over them a quarter of an Inch of the ſame Mould; and in dry Weather water the Bed.

When the young Plants riſe thin them, and keep the Bed well weeded.

When they are two Months old, plant them out in another Bed of the ſame Compoſt, in the ſame Situation, at ſix Inches Diſtance; and in the latter End of *September* make up a ſmall Bed for them in the Garden, with the ſame Compoſt; and plant them at two Foot Diſtance. Let them be taken up this Time with particular Care, and a good Ball of Earth preſerved to the Roots; let them be watered till very well rooted, and if the Winter ſhould be very ſevere, let them be defended by a Canvas Covering, drawn over ſome Hoops.

They will flower the next Seaſon, and be a great Grace to the Garden all Summer.

6. FLAT LEAV'D GOLDEN SEDUM.

Pl. 48. Fig. 6. This very elegant and ſingular Plant is one of thoſe Additions to the Ornaments of Gardens, which we owe to the *Siberian* Botany.

The old Writers were unacquainted with it, and 'twas not till LINNÆUS read Nature in the Flower that the Plant was refer'd to its true Genus. AMMAN, to whom we owe the firſt Knowledge of the Plant, calls it, *Anacampſeros flore flavo:* yellow Orpine. LINNÆUS, *Sedum foliis lanceolatis ſerratis planis, caule erecto cyma ſeſſili teminali:* Upright Sedum, with flat, lanceolated, ſerrated Leaves, and with a Cluſter of Flowers without a common Pedicle. This is a Name worthy the Correctneſs of LINNÆUS, but let the Student take Care it does not at the firſt Sight miſlead him.

The Edges of the Leaves naturally riſe, and the Leaves appear hollowed; the Term Flat is uſed in Diſtinction from thoſe Leaves of the *Sedum* Kind, which are cylindrical.

The Root is thick and ſpreading, hard, and hung with many Fibres.

The Stalk is round, woody, and of a pale Colour, tinged with red in many Places, and moſt upon the younger Shoots.

The Leaves are plac'd alternate, and have no Footſtalks; they eaſily fall off from the lower Part of the Plant, and leave Marks where they have ſtood: they are lanceolate, broadeſt toward the middle, ſerrated at the Edges, and obtuſe at the End: they are of a fleſhy Subſtance, and their Colour is of a very delicate fine green.

The Flowers crown the Tops of all the Branches, and make a very beautiful Appearance at the Summit of the Plant; they are ſtarry, and of a fine golden yellow.

Each has its ſeparate Cup, ſmall, yellowiſh, edg'd with red, and divided into five Segments, pointed at the Ends.

Five Petals conſtitute the Body of the Flower, and they are narrow pointed, and expanded like Rays from a Star: within ſtand five little Scales on the Outſide of the Rudiments of the Seed-veſſels; theſe are the Nectaria of the Flower.

The Filaments are ten; they are ſmalleſt at the Top, and crown'd with round Buttons.

The Rudiments are five, and each terminated by a ſlender Style with a ſmall obtuſe Head.

The Number of the Filaments and Styles ſhew that the Flower belongs to the *Decandria pentagynia* of LINNÆUS.

Culture of this SEDUM.

A Native of *Siberia* the Gardener may be aſſured will live in the open Air in our more temperate Climate, without any particular Trouble. Where this is native, it loves a mellow Soil, and ſome Shade; and this we muſt allow it in our Culture.

The beſt Management is to ſow in a Nurſery Bed, in *April*, the Seeds ripened the preceding Autumn. They muſt have a good, rich, but not heavy Soil, taken from any of the Heaps of Compoſt of that Character.

When the Plants have two Months Growth, they muſt be removed each with a good Ball of Earth, into the Places where they are to remain; and they will afterwards require only the common Care of weeding and watering in dry Weather.

The beſt Place is about the Edge of ſome Wilderneſs Quarter; and the Mould ſhould be removed, and one of the Compoſts, ſuch as we have named, put in its Place.

All the Plants of this Number are now in Flower at *Lee* and *Kennedy*'s Nurſery near *Hammerſmith*.

SECTION II.

Of making a GARDEN.

THE Care and Management of every Part of the Ground as neceſſary for the preſent Week, the practical Student will find in the firſt Number of this Work. We have compleated the Circle of a Year; for 'twas in the laſt Week of the preceeding *Auguſt* we began; and we ſhall have now an Opportunity to conſider the general Arrangement of a Garden, the Choice of the Ground, and its Diſpoſition, with the Manner of original Plantation; as alſo to enter upon other the moſt eſſential and neceſſary Articles of the Profeſſion.

As the Leſſons to be given on this moſt important Head require the Compaſs of a few Sheets, we have taken this Opportunity without exceeding our original Plan; by avoiding Repetition in thoſe few Weeks where nothing new was required to be done: and we ſhall, in this and the ſucceeding Numbers, after the Accounts as uſual of half a Dozen Plants in Seaſon, compleat the practical Gardener's Inſtruction in the making a Garden; and deliver thoſe Methods in particular and moſt uſeful Inſtances, which the Gardeners keep as their ſelect and valu'd Secrets.

The Taſte for Gardening is at this Time ſo univerſal, that beſide the Improvement upon the falſe Manner of our Anceſtors in the old, new ones will be continually now riſing; and as the Seaſon approaches for moſt rationally beginning this Work, it will be now Time to lay the Plan.

CHAP. I.

The Choice of the Ground.

THE Choice of Ground for a Garden, is the firſt Article, and of all others it demands moſt Care; becauſe an Error in that Reſpect is never to be remedied.

In this Matter the ſame Rules will ſerve for a Piece of one Acre, or of ever ſo large Extent; and, in general, the ſame Idea of its Diſpoſition: in *England* Ground is plentiful enough; and moſt of it is fertile, or capable of being made ſo; therefore let the Perſon, who is about to make a Garden, take the Advantage he has of chuſing; and comprehend in his Mind all the Requiſites and Advantages before he fixes upon a Spot.

Had we begun the Work with this Article, every Thing would have been new, and every Thing ſtrange to the Reader; he would not have remembered afterwards what he could not underſtand; and the Leſſon would have been given with little Advantage.

As we have now gone through the general Articles of Culture, we ſhall be underſtood in every Direction relating to the Ground; he will remember that a particular Situation, Soil, and Expoſure are neceſſary, who knows why they are requiſite; and a few Words will thus ſtand in the Place of Pages.

In the Choice of a Piece of Ground for a Garden, three Things are moſt eſſential to be conſidered, the Situation, Aſpect, or Expoſure, and Soil.

In regard of Situation the three Kinds are an *Elevation*, a *Declivity*, or a *Plain*. By the Term Elevation the Gardener will underſtand we mean rhe Top of a Hill, by a Declivity its Side, or a Deſcent, and by a Plain a flat Piece of Ground. He very well knows that the Top of a Hill will be bleak, the Side temperate, and the Plain naturally damp. The Choice would be made at once, if no more Conſiderations occurred; but we muſt inform the Gardener of the whole.

The firſt Idea of Gardening, and that which prevails in many Countries at preſent, is the laying out a great Extent of Ground in ſomething leſs than its natural Wildneſs: the Idea in this is vaſt, and tho' the Work be rude, it cannot but be pleaſing.

In departing from this Taſte, our Fathers run into the oppoſite Extream. Inſtead of having every Thing free, wild, and extenſive; all was limited and confined. Four Walls bounded the Spot, and clip'd Yews took the Place of waving Oaks and branching Elms; a few ill-conſtructed Pavilions were the only Objects; and dirty Ponds the Water.

It is common in avoiding one Fault, to run into another: that was the Caſe in the firſt Improvement, as it was called, in Gardens; but we have now grown wiſer; we have thrown down our nine Foot Walls, and opened the Proſpect by ha-ha's; the Country is again become a Scene from the Garden, if not a Part of it.

We ſee ſome who have Taſte enough to mix the Corn Field, and the wild Hedge; the flowery Meadow, and natural Thicket, in the very Limits of the Garden; and 'tis ſo happy in the Effect, that we may reaſonably ſuppoſe more will imitate them.

All this let the Perſon who is about to make a Garden, take into his Mind; and chuſe a Spot accordingly.

As wild Nature is to be a Part, or at leaſt, is to come in View, let him be ſure to fix upon a Place where Nature is agreeable.

We have not many bad Scenes in this happy Country; but let the Deſigner not only avoid theſe, but chuſe among the good ones.

The Country round about muſt be pleaſant that it may afford agreeable Proſpects, and his choſen Piece of Ground muſt have ſome Elevation that he may view them.

The World does not furniſh a Tree nobler than the *Engliſh* Elm; this will be ſeen in every Hedge, and its good Growth is a favourable Indication for the Soil.

The Hawthorn Hedge, and intermingled Crab; the brown Oak, and the elegant leaved Aſh, all join to diverſify the Scene in our moſt common Fences; and a Proſpect from the moſt conſpicuous Part of the intended Ground, over a cultivated Country diſpoſed in Arable and Paſture Land, with theſe Fences, muſt always be agreeable. The good Growth of the Trees will alſo ſhew the general right Quality of the Soil.

Such ſhould be the principal Proſpect from the Ground: if the Spot have an Aſcent, it will be eaſy to give different Views of it from various Openings; all agreeable; and if there be not the Convenience of opening immediately into any of the Fields from the Garden, yet the Appearance of them from a Diſtance is always eaſy; for when the Fence is not ſeen, the Field becomes a Part of the Garden.

Next to Beauty in the adjacent Country ſhould be Variety; and this the Deſcent of the choſen Piece of Ground will beſt bring into View.

There is no Condition of Nature in which her Aſpect is not pleaſing when properly diſpoſed and introduced. The Freſhneſs of cultivated Nature is the moſt agreeable near Proſpect; but a barren Deſart, a Heath, or Common, may be an agreeable diſtant Determination of a View; and a Hill, a Foreſt, or a River, are always Elegancies.

So much the Conſideration of the adjacent Country ſhould prevail in the fixing upon a Spot of Ground: and the great Uſe of a ſlight Declivity, or Side of a Hill is, that it will give Opportunities of commanding theſe Proſpects without that Bleakneſs to which the Tops of high Grounds are always ſubject.

Another Advantage is, that Trees will ſtand well in theſe Situations, whereas on the Tops of Hills Winds would tear them from the Roots when new planted. On theſe Sides of Hills the Air alſo is always more temperate and healthful. The Air of low Grounds is uſually damp, and the Tops of Hills too ſharp.

This Choice of a Side of a Hill is the happy Medium, and it is thus one would wiſh to have a Garden ſituated, that whenever one ſteps into it, the Air ſhall be refreſhing; and that, independent of that Beauty which is to ariſe from the Diſpoſition of the Ground itſelf, and the Plantation; every Thing we ſee at more Diſtance ſhall be chearful and pleaſing. This we obtain by chuſing a Piece of gently riſing Ground in the Midſt of an agreeable and fruitful Country.

Thus far the Nature of the Ground ſupports the Preference, but many Things more are to be conſidered, and there muſt be great Limitation in the Degree of Aſcent.

We have hitherto conſidered the Views and Wholeſomeneſs of the Air; but a Garden is deſigned for walking, and a ſteep Aſcent is difficult. Every Thing is intended for Pleaſure, therefore it is a firſt Point that every Thing muſt be eaſy. A very gentle Declivity will give all the Advantages we have named, and more would be only troubleſome to the Feet, and unpleaſing to the Eye.

What ſhould be preferred to all others is a continual but very ſmall Aſcent, which a little Labour may in different Places throw into an abſolute Level; nor is there indeed any ſuch Piece of Ground where Nature does not favour this in ſome Part of the Slope.

Theſe Parts will favour that Variety we now with ſo juſt Taſte admire in Gardens: naturally there will be Water at the Bottom; and a little Art will detain what runs down the Slope in various Parts for the Uſe of the ſeveral Diviſions of the Garden; where it may be always ready, and always unſeen.

CHAP. II.

Of the Aſpect of a GARDEN.

WE have told the Reader that when he has ſettled in his Mind what Piece of Ground is from its Situation beſt for a Garden, there yet remain many Things to be conſidered.

We have recommended to him the Side of a Hill where the Aſcent is gentle, and where the Country has Fertility and Variety; but he is to obſerve, that every Part of *England* affords him Choice of many ſuch Spots, and he is to fix himſelf according to the other Advantages.

The firſt of theſe is the Aſpect, or Expoſure; by this the Gardener means the Quarter of the Heavens toward which the Ground is open.

There are ſloping Grounds facing the Eaſt, Weſt, North, and South; and every Subdiſtinction of the Compaſs, but of them all a South Eaſt is the fitteſt for a Garden.

This will be very well underſtood from the Conduct of the Work laid down in the preceding Pages under various Articles.

All Plants love the Morning Sun, but very few of them can bear the full Blaze of Noonday.

We adviſe under the various Articles of raiſing tender Plants, that they be placed in a Situation where they may have the Morning Sun; and in the Directions for keeping the fineſt Flowers in Bloom; the great Rule univerſally is to keep off the full mid-day Sun.

Such a Choice in point of Aſpect as we have here directed, will give the whole Ground that Advantage, and by a juſt Plantation, of which we ſhall ſpeak in a ſucceeding Chapter, all the Advantages of this Aſpect will be perfectly enjoyed.

If the Spot thus choſen have a Defence of Trees, and riſing Grounds to the North, it will be a farther Advantage; but the want of this is not to be conſidered as an unſurmountable Objection, becauſe Trees may be ſoon planted, and there are Kinds that grow very quick to a due Bigneſs.

CHAP. III.

Of the SOIL.

THE two great Conſiderations of Situation and Aſpect thus ſettled; the Deſigner of a Garden underſtanding that he is to chuſe a Spot of eaſy Aſcent, and open to the South Eaſt, it remains that he examine the Soil.

We have obſerved that a good Growth of Trees in the adjoining Hedges, is one excellent Rule of judging; and to this may be added the Aſpect and Appearance of the Crops upon the Ground; and even of the Weeds. If every Thing appear vigorous in wild Nature, it is a Promiſe that culturing it will anſwer yet better.

This external Obſervation favouring, the next Thing is to examine the Soil by digging.

For this Purpoſe let a Hole be opened four Spades deep, and obſerve what is the Condition and Depth of the Vegetable Mould. The beſt for a Garden is a free, looſe, hazel Earth: this is what we find under the Turf in the richeſt Paſtures. We introduce it into the Compoſts of moſt Kinds in our Gardens, and it will be very happy if Nature afford it as the original Soil.

If the Mould be of this Kind, and neither very dry, nor too moiſt, and continue ſuch to the Depth of the fourth Spade, it is the moſt perfect that can be wiſhed; if it be good for three Spades it will do very well: but if there be much leſs than this it is a reaſonable Objection.

The Addition of Manure will encreaſe the Quantity as well as improve the Quality, but there muſt be a juſt Foundation in Nature for both.

If the Soil be good in its Kind, but ſhallow, and have a bad Bottom underneath, the deep rooted Growths will all fade and grow poor as ſoon as they have reached through the upper Coat of Mould.

To know with Certainty the Condition of the Ground in this reſpect, two or three other Holes muſt be opened as the firſt, but in different Places, ſo that the general Condition of the Ground may be known; for there are in the Diſpoſitions of Soils, and eſpecially on riſing Grounds, Uncertainties and Variations beyond what could be ſuppoſed.

This Care and Examination muſt not be ſup-

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poſed too much : the Choice of the Ground determines the Succeſs of the Garden ; and 'tis to a Neglect on this Head, that we ſee Labour and Expence ſo often forfeited.

As we have named what is the beſt Condition of the natural Soil for a Garden, we muſt add, that the worſt is Clay.

There are Methods of improving all Soils, this not excepted ; but 'tis almoſt an endleſs Labour to prepare a clayey Soil for Garden Borders ; and when all is done that can be, the Succeſs is imperfect. We add rich Manures, and theſe mix well with loamy and hazely Soils, but they waſh off from among the clayey.

'Tis true, that a Mixture of Sand and Paſture Mould will reduce Clay to a kind of Loam ; but when that is done 'tis imperfect. Clay is the worſt Ingredient that can come into a Compoſt for a Flower Garden ; and in theſe Soils however mended, it will always be predominant. Gravelly Soils are poor, and thoſe of the ſtony Kind at once poor and hot.

The Gardener ſhould well underſtand this Diſtinction. Gravelly Soils are thoſe full of Flints and Pebbles ; ſtony Soils are ſuch as abound with Pieces of Lime-ſtone, Free, or other Quarry-ſtone. Sandy Soils are always barren, and always to be rejected in the Choice of a Piece of Ground for a Garden.

All the others are capable of an Improvement where Neceſſity throws the Deſigner of a Garden upon them.

The Clay will be brought to a Loam by Sand, and even the Sand by Clay ; and the gravelly and ſtony may be cleared of thoſe uſeleſs Parts, and raiſed by better Soil : but this is tedious and expenſive.

The true Choice muſt fall upon a Piece of Ground naturally ſuited to the Growth of Vegetables ; and then leſs Labour, leſs Charge, and leſs Uncertainty will be the Conſequence.

When a Piece of Ground is found that has all theſe Requiſites, a gentle Deſcent, a South Eaſt Aſpect, and a deep hazely Soil, let not any little Irregularities in the Surface deter the Deſigner of the Garden ; far from Blemiſhes, they may often be turned into the moſt conſiderable Beauties : at worſt from the Nature of the Ground, they will be eaſily levelled ; or made at leaſt tolerably regular.

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The greater the Extent of the Ground the leſs are theſe Unevenneſſes to be regarded. The Hollows may be a proper Plantation, be made to reſemble thoſe rude Dells in the wild State of Things, than which Nature affords no Variety more pleaſing.

An Oak riſing from the Bottom of a Hollow, ſurrounded with Shrubs of humbler Growth, will form a very agreeable Object from thoſe Walks in which the Feet are upon a Level with its topmoſt Branches. Nay, Genius, when it dares take its full Flights, will make theſe Caverns the moſt ſtriking of all Objects.

Thoſe who have ſeen *Goodwood*, know how much a Genius like the late Duke of *Richmond*'s could make of ſuch an Irregularity in the Ground : the Repreſentation of Rocks rent by an Earthquake, and of Earth ſunk by ſome great Cataſtrophe, preſents itſelf to the aſtoniſhed and pleaſed Imagination. This is the Sublime in Gardening ; which, as a late ingenious Author * has ſhewn on other Occaſions, has its great Source in Terror.

This may ſerve as an Inſtance in the greater Kind ; and it will be eaſy to make theſe natural Defects in leſſer Occaſions, Objects of agreeable Variety.

One Rule on this Head is univerſal, the ſmaller the Piece of Ground the leſs it will admit theſe Irregularities. In general what is true of a great Garden, is applicable alſo to a little one ; but there muſt be Scope for the Introduction of theſe ſingular and great Parts.

CHAP. IV.

Of WATER.

THE Ground with all the Advantages we have deſcribed, is yet imperfect if there is not Water : he would be as abſurd who ſhould attempt to make a Garden without Water, as without Mould.

There is no Difference between Rock and abſolute dry Deſart, in reſpect of Vegetable Productions.

Water is requiſite to the Beauty as well as eſſential to the Preſervation and Management of Gardens ; and without entering into a frivolous Detail of leſſer Diſtinctions, let the Gardener conſider it under three Kinds, Spring, River, and Pond.

Of theſe the laſt is moſt ſuited to the Service, and the ſecond to the Decoration of Gardens. Spring Water is the hardeſt and coldeſt ; River Water is of a middle Quality, and Pond Water is the ſofteſt and warmeſt of all.

Spring Water from a Well is cold and hard in the moſt extream Degree ; as it has run farther, and ſpread more upon the Surface, it becomes more of the Nature of River Water; and that is ſofteſt and warmeſt where there is leaſt Current.

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* Mr. *Bourke* on the Sublime and Beautiful.

The Water of Ponds is warmeſt when they are ſhalloweſt and moſt expoſed. On theſe Principles the Gardener is to judge of Water in whatever State.

For Ornament, nothing can be ſo happy as the Choice of ſuch a Piece of Ground as we have recommended, where there runs a ſmall River at its Bottom.

If there be Springs in the higher Ground, their Courſe muſt be turned ſo as to decorate and refreſh the ſeveral Parts of the Garden; and either for the detaining a Part of this, or for lodging and holding the Rain Water which runs from the higher Part of the Ground, Ponds muſt be dug in concealed Places, that there never may want a Supply.

If the Bottom will not hold it muſt be clayed, and there ſhould be a larger Number of theſe Ponds in Proportion to the Extent of the Ground; or if it be ſmall, one near the Centre.

The Succeſs of Plantations, and the thriving Growth of almoſt all Kinds of Plants, depends on Watering in dry Seaſons: the Deſigner ſhould remember how often this will be neceſſary, and he ſhould contrive in Time that the Labour of carrying it be not too great.

In regard to the ornamental Uſe of Water, nothing ſhould be introduced for that Purpoſe, but the running: Coolneſs is one of the great Recommendations of a Garden, and nothing refreſhes the Air, or gives the Appearance of Coolneſs, as well as the Reality, like running Water.

Whatever we admire moſt in Nature, we ſhould endeavour to introduce in Gardens; and there is no Summer Sight ſo pleaſing as a ſhallow and ſwift Rivulet poliſhing the Pebbles, and murmuring as it runs among them.

All ſtanding Waters are apt to grow foul, and they favour the Production of Inſects. They are uſeful, but they ſhould be kept out of Sight, and as much as poſſible at a Diſtance from the more elegant Parts of the Garden: they look offenſive when foul, and they taint the Air, and they promote Vermin.

The Coolneſs, the Freſhneſs, and the flouriſhing Condition of a Garden depend in a very great Degree on Water; therefore never let the Place be fixed upon that wants this Advantage, though it have every other we have named: and, on the contrary, where there is the Benefit of a running Water, it will be worth while to combat Diſadvantages in many other Reſpects. It is the Life and Soul of a Garden, its great Elegance, and great Ornament: Meditation is the Object in the retired Viſits to a Garden; and even thoſe who have not Underſtandings exalted enough for that, have in its Place a muſing Sedateneſs. Nothing ſo much diſpoſes to this as one of theſe ſhallow Brooks: a Man may look on them and muſe for Hours.

The Folly of Water-works is over, but that was a vain and frivolous Attempt of Art: this is Nature.

The Expence of thoſe artificial Works was very great, and they were always out of order. If this natural Advantage can be obtained it laſts for ever.

If there be a Spring upon the higher Part of the Ground, this is the next Thing to a River at the Bottom: it may be thrown into many Forms, and it will be always uſeful as well as pleaſing.

We ſhall cloſe this eſſential Article of Choice of the Spot, with a few Obſervations on the Advantages and Diſadvantages of other Situations, and the Uſes to be made of this; and in the ſucceeding Chapters on this Head, ſhall attempt the Diſpoſition upon rational Principles.

If there be not a Piece of Ground in the intended Part of the Country which has thoſe Requiſites we have named for the Perfection of a Garden, the Choice will fall upon high Grounds, or Flats, and the Determination is eaſy: on high Grounds, beſide the Bleakneſs and Expoſure, there is naturally a Want of Water; Winds have too much Power, and it is almoſt impoſſible to keep up a flouriſhing and healthy Aſpect. For this, and for the Convenience of Approach, the Choice falls upon the plain or flat Country. There will be Water in Abundance, and a mild Air; every Thing will flouriſh; and the greateſt Defect will be, that of Proſpect.

Let the Gardener take Care that though he fix upon a flat Country, it be not on a low Part of it; for in the plaineſt Countries there is ſo much Choice.

Let him obſerve how high Floods riſe, and take Care that he be not in danger of overflowing in Winter; and that the Soil be not too moiſt for the Reception of Plants of every Kind. Moſt Kinds require Watering at certain Times, but few will bear to have the Mould continually wet about their Roots.

If ſuch a Diſadvantage be found after the Choice has been made, and the Work begun, a Pond ſunk in ſome proper Place may drain the reſt, and be uſeful in the double Capacity of preventing Drought in Summer, and overflowing in Winter. In general, with due Regard to other Articles, the making of a Garden is eaſier and cheaper upon a plain or flat Piece of Ground; tho' upon a riſing Spot it will be more elegant.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER L.

For the firſt Week in *SEPTEMBER.*

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. CILIATE LEAV'D RHODODENDRON.

Sept. Pl. 49. Fig. 1. CUrioſity and Beauty both plead for the Place this Shrub has for ſome Time held in the *Italian* Gardens, and which it deſerves univerſally to hold in ours. It was known to the old Writers, tho' we are obliged to give it the new Name, theirs was ſo improper.

It is the Eighth *Chamæ Ciſtas* of CLUSIUS; the *Chamæciſtus hirſuta* of CASPAR, and the *Ciſtus pumila montis Baldia* of JOHN BAUHINE: by theſe Names of *Dwarf Ciſtus*, *hairy dwarf Ciſtus*, and *low Ciſtus of Mount baldus*, it was known to all who followed, till PLUKENET called it *Ciſtus Chamærhododendros foliis:* Ciſtus with Leaves like Chamærhododendros, and *Micheli Ledum foliis ſerpylli:* Mother of Thyme-leav'd Ledum. LINNÆUS refers it to his *Genus Rhododendron*, and adds as the Diſtinction of the Species, *Foliis ciliatis corollis rotatis:* ciliate leav'd Rhododendron with rotated Flowers.

It is a ſmall but very elegant Shrub: the Root is woody, long, and ſpreading.

The Stem is covered with a brown Bark, tinged with purple; the Branches are very numerous, and their Bark is paler. They ſtand perfectly irregular, but in the whole make a pretty Appearance.

Sept. The Leaves are cluſter'd on the upper Parts of the Branches, and are very ſingular and elegant. They are ſmall, of a lanceolate, but nearly oval Form, and of a very ſingular Colour; a browniſh red or ferrugineous Hue, with very little green; ſhining and gloſſy on the Surface; and at the Edges ſurrounded with regular, ſtiff, dark Hairs, reſembling Eyelaſhes.

PLUKENET adds to his Diſtinction of the Plant, with Leaves edged with Hairs in the Manner of Eyelaſhes, *Foliis cilii inſtar piloſis.* LINNÆUS ſhortens the Term, and calls it *Ciliatis.* This Edge of ſtiff Hairs is what he on all Occaſions expreſſes by that Term.

The Flowers are large and elegant, they are placed ſingly on long naked Footſtalks, and their Colour is a very delicate Crimſon; two generally riſe from the Summit of every Branch, and their Footſtalks wave or bend a little.

Each has its little Cup formed of one Leaf, divided deeply into five narrow Segments, and permanent.

The Body of the Flower is formed alſo of one Petal, deeply cut into five Segments, and of a rotated or wheel-like Form, hollowed in at the Baſe, where it is tubular a little Way, and expanded at the Rim: the Segments are oval, waved, and pointed.

From the Baſe of the Flower are ten Filaments, long, ſlender, expanded, and crowned with oval Buttons. In the midſt of theſe riſes from a blunt Rudiment, marked with five Ridges, a ſlender Style, crowned with an obtuſe Head.

The Seed-veſſel, which follows, is marked with five Ridges, and divided into five Cells, in each of which are numerous minute Seeds. The ten Filaments refer the Plant to the *Decandria* of LINNÆUS, his tenth Claſs; and the ſingle Style ſhews it one of the *Monogynia*.

Culture of this RHODODENDRON.

It is a Native of many of the Northern Parts of *Europe*, where it thrives beſt in a deep rich Soil with ſome Moiſture, at the Foot of a Hill. A Plant native of ſo cold a Climate can demand no particular Care in our Gardens; only to make it ſucceed perfectly, the Place ſhould have a little Shelter, and it ſhould have frequent Waterings.

The beſt Compoſt for it is an equal Mixture of Garden Mould and Pond Mud; and the Propagation may either be by Cuttings, or by parting of the Roots, or from Seed. If the Roots be parted, it muſt be done in *September*, and they ſhould not be broke too ſmall.

The Method by cuttings is preferable to this, and is to be done in *May*.

The young Branches muſt be taken off for this Purpoſe in a cloudy Evening, and planted in a Bed of the Compoſt juſt directed, where they muſt be watered and ſhaded carefully till they have taken Root; but the beſt Way of all is to raiſe the Plants from Seeds. Theſe ripen perfectly in our Gardens, and they always afford the handſomeſt Plants.

In the laſt Week of *March* let a Bed be made up with the Compoſt; and let Seeds, ſaved the laſt Seaſon, be ſcattered over it pretty thick, and with a regular Hand: when the young Shoots appear they muſt be thin'd and water'd, and when they have ſix Weeks Growth they muſt be tranſplanted into another Bed of the ſame Compoſt; in which they are to ſtand till the following Autumn.

Then the fineſt are to be ſelected, and planted out in the Flower Garden, taking them up with a good Ball of Earth to the Roots, and obſerving to water them frequently till they are rooted well; after this they require no more than the common Care of weeding and watering, and they will flower in full Perfection.

The fineſt Plants are thoſe of the ſecond Year; and for this Reaſon, the Gardener ſhould conſtantly ſave Seeds, and repeat the ſowing for a new Stock.

2. The STORAX TREE.

Pl. 50. Fig. 2. Medicine has made this Tree famous, and had it leſs Beauty it would be preſerved on Account of that fragrant Reſin which it produces in the warmer Countries in great Abundance, and which is in conſtant and ſucceſsful Uſe in the Shops: but were there no ſuch Qualities, the elegant Growth of the Tree itſelf would not fail to recommend it to their Notice who preſerve the curious Kinds.

The Reſin has been long known in Medicine, and the Tree familiar among the botanical Writers. They call it *Styrax*, *Styrax Arbor*, and *Styrax folio mali cotonei:* the Storax Tree, and quince-leav'd Storax; but as it conſtitutes a Genus of which we know no other Species, there needs to be no Addition to the generical Name. LINNÆUS preſerves this, and calls it ſimply, *Styrax.*

It is a Tree of moderate Growth, robuſt, and full of Branches. The Bark is pale, the Wood firm, and very finely ſcented.

The Leaves are large and numerous, and are diſpoſed with perfect Irregularity upon the Branches; they are broad, oval, waved at the Edges, pointed at the End; of a delicate freſh green on the upper Side, and grey or whitiſh underneath.

The Flowers are numerous, large, white, and very fragrant; they have an Aſpect of the Orange Flower, and they grow ſeveral together, as on thoſe Trees hanging from all the young Shoots.

Each Flower has its ſmall Cup formed of one Piece, Cylindric at the Baſe, and indented in five Places at the Rim.

The Body of the Flower is formed of a ſingle Petal, tubular at the Baſe, expanding to the Verge, and divided deeply into five long, lanceolate, and obtuſe Segments: from the tubular Part of the Flower, near the Baſe, riſe twelve or more Filaments, which have a Tendency to unite into ſeveral Cluſters at their Bottoms: they are upright, circularly arrang'd, and crowned with oblong, erect Buttons.

From a roundiſh Rudiment of a Fruit placed beneath, there riſes a ſingle Style of the Length of the Filaments, terminated by a blunt Head. The Rudiment ripens into a coated Fruit or Drupe, of a roundiſh Form, and containing in one Cell two roundiſh Kernels, convex on one Side, flat on the other, and pointed.

We have had Occaſion to obſerve in a preceding Work, that excellent as LINNÆUS is in his Characters of Genera, and diſtinctive Names of Species, his claſſical Diſtribution is founded on

Accidents too ſlight, and too uncertain. It appears in this Inſtance: the *Styrax* is, by his expreſs Obſervation, as well as by its obvious Characters, very nearly related to the *Citrus* Kind. In that Tree the Filaments are numerous, and unite into ſeveral Bodies at their Baſes; it is therefore placed among the *Polyadelphia*. This has a Tendency to the ſame Coalition; yet that Character not being perfect, it is placed by the Author among the *Dodecandria*, though the Number of Filaments is too great for that Account.

The Style is ſingle, and this refers it to the *Monogynia*.

Culture of the STYRAX TREE.

It is a Native of the Eaſt and of the ſouthern Parts of *Europe*, frequent in the hotteſt Parts of *Syria*, and wild in *Italy* and in *France*. GAIRDEL found it in the Foreſt of St. *Baume*, in *Provence*, where the Peaſants gave it the Name *Aligouſier*, and obtained a ſoft Reſin from the wounded Bark, which they kept for medicinal Purpoſes, inwardly as a Balſamick and Deobſtruent, and externally in freſh Wounds.

The Tree will live in the open Air, but that is hazardous: it is beſt to keep it in a Pot, and to give it the Shelter of a Green-houſe in Winter.

It may be raiſed from Cuttings, or produced from Seed; but a better Way than either is to order ſome ſmall Trees of it from *Italy*, in the ſame Manner as we receive from thence the Orange and Jaſmine Kinds.

There is hazard in raiſing it either Way here, though it will ſtand very well when rooted firmly; and as the Trees may be in this Manner brought over of the ſame Size with the Orange, the ſame Methods we uſe for thoſe will bring this to ſhoot; and no Way will ſo ſoon, or ſo eaſily afford handſome Trees. The Method of managing theſe we have delivered at large in a preceding Part of this Work.

If any chuſe the Method by Cuttings, a ſhady Border of very rich Earth muſt be choſen for the Purpoſe, and the Cuttings muſt be planted in the uſual Manner, watering them carefully till they are well rooted; and then removing them into Pots, planting one in each, and taking them up with a large Ball of the Mould.

The raiſing them from Seed is eaſier than this, and produces better Trees. The Time for it is Autumn: the Seeds ripened that Seaſon ſhould be uſed, and they ſhould be ſown in Pots of fine Mould, and thoſe plunged up to the Rim in a Bark-bed.

The Seeds will lie a conſiderable Time in the Ground; but when the young Plants appear they muſt be planted out in ſeparate Pots, and again plunged into Bark, and ſhaded and watered till they have taken good Root. They may then be by degrees hardened to the Air, and ſet out among the Green-houſe Plants. In Autumn they ſhould be taken into Shelter with the Myrtles, and other Trees of that Kind; and they muſt then be allowed as much Air as the Nature of the Place will admit.

This Management will bring them to flower in Perfection; and as ſome will be to ſpare in the ſeedling Pots, they ſhould be planted out in the open Ground, chuſing a warm Place for them; and left to take their Chance.

With the ſame Care that is allowed to other tender Trees which ſtand the ſame Expoſure, ſome of theſe will eſtabliſh themſelves firmly; and after that they will defy our Winters, and make a better Progreſs and Appearance than ſuch as are houſed, and confined to the ſmall Limits of a Pot.

3. The HOP HORNBEAM.

Pl. 50. Fig. 3. This is a very handſome Foreſt Tree, native of the warmer Parts of *Europe*, and of *America*; and, very worthily, now univerſal in our Plantations. The Writers on Botany of late Time have all mentioned it.

C. BAUHINE calls it *Oſtrya ulmo ſimilis fructu racemoſo lupulo ſimili*: Elm leaved Oſtrya with Fruit like the Hop.

MICHELI, who very accurately inveſtigated its Characters, calls it *Oſtrya italica carpini folio fructu longiore ſive breviore habitiore*: Carpinus leaved Oſtrya with a longer, or ſhorter, and thicker Fruit.

LINNÆUS comprehending this and the common Hornbeam under the ſame Genus, gives them the Name *Carpinus*; and adds as the Diſtinction of this, *Squammis ſtrobilorum inflatis*: Carpinus with the Scales of the Fruit ſwoln as if inflated.

Till the Time of this Author the Diſtinctions of Fruits were very ill expreſſed. We had no Name for this ſingular one of the *Oſtrya*, which is formed of a Female Catkin: to this, and all others of the ſame Kind, he gives the Name *Strobilus*; which fully and perfectly diſtinguiſhes that Kind of Fruit from all others.

The Tree is large, and of a very good Form, branched, and ſhadowy. The Bark is brown on the Trunk, and paler on the young Branches.

The Leaves are very numerous, broad at the Baſe, ſmaller to the Point, and irregularly notched about the Edges. Their Colour is a freſh and pleaſing green.

The Flowers are of two Kinds, Male and Female, on different Parts of the ſame Tree, both in the Form of Catkins, and neither conſpicuous; the Female are followed by the ſingular Fruit, Sept. which, reſembling a Hop in Form and Colour, has given the Tree the Name *Hop Hornbeam.*

The Flowers of both Kinds very well deſerve the Attention of the botanical Student.

The Male Flowers are cluſtered together in a long Catkin of a cylindrick Form, compoſed in a looſe manner of Scales one over another.

The Scales ate oval, hollowed, ſharp pointed, edged with a Rim of ſtiff Hairs; and each ſerves as the Cup to one Flower.

This has no Petals: it conſiſts of ten very ſhort Filaments, each crowned with a double Button. Theſe have a flowery Aſpect, and have been called by ſome the Floſcules of the *Carpinus.*

Theſe Buttons are hairy at their Tops, of a compreſſed Form, and made of two Valves. There are in the Male Flowers no other Parts.

The Female are diſpoſed in Catkins of an oblong Form, compoſed of Scales looſely laid over one another; and theſe are hairy, of a lanceolated Form, with the Point turned back; and each contains one Flower.

This has the Aſpect of a Cup, and is formed of a ſingle Piece cut at the Edge into ſix Segments, two of which are larger than the other four.

In the Baſe of this are placed two Rudiments; and each of theſe is crowned with two long, coloured Styles, terminated by ſmall ſimple Heads. The whole Catkin of Female Flowers ſwells into Thickneſs afterwards, and reſembles the Hop. Sept. The ſeveral Scales ſwell up, and under each is contained a ſingle Seed.

The Claſs of this Tree is not to be ſought in the Number of the Filaments; but in the Diſpoſition of the Male and Female Flowers ſeparate on the ſame Tree. When they are on diſtinct Trees, the Claſs is the *Diœcia*; but when they are ſeparate in themſelves, but both Kinds on the ſame Tree, the Claſs is the *Monœcia.*

The Subdiſtinctions of this Claſs are in the firſt Inſtances taken from the Number of the Filaments; and theſe, when they exceed ſeven, are counted among the *Polyandria.* The *Carpinus* therefore is one of the *Monœcia Polyandria.*

Culture of the HOP HORNBEAM.

It is a hardy Tree, and very eaſily propagated, it may be raiſed from Seed; but as the young Shoots take root freely in the Way of Layers, that Method is preferable, and is moſt practiſed.

They ſhould be laid in Autumn in the uſual Manner, and not be cut off till the Autumn following: they will by that Time have very good Roots; and ſhould be planted in a Nurſery to take two or three Years Growth; keeping them clear from Weeds, and training them up to the intended Form.

4. TERNATE LEAVED RUE.

Pl. 50. Fig. 4. This is a very elegant and ſingular Plant, plainly of the Rue Kind in Flower; but ſo extreamly diſtinct in Form, that it appears ſingular the Characters ſhould agree ſo perfectly; we owe the Knowledge of it to MICHELI.

The Flower wanting that Hairyneſs which is ſo conſpicuous in that of the Rue, he ſeparated it, and called it *Pſeudo Ruta*: baſtard Rue: but this is an Accident too ſlight to be received in the preſent improved State of the Science, as the Mark of a diſtinct Genus.

LINNÆUS refers it to the Rue Kind, and adds as the Diſtinction of the Species, *foliis ternatis ſeſſilibus*: Rue with Leaves growing three together, without Footſtalks.

The Root is long, ſlender, and hung with a few Fibres.

The Stalk is upright, ſimple, firm, and at the Top divided into a Number of Branches which ſpread out into a kind of Head: it is purpliſh toward the Bottom, and green upwards.

The Leaves are oblong, narrow, obtuſe, and of a pale green. Three riſe together, and they have no Footſtalks. They ſtand cloſe, and cover the whole Stalk from the Ground to the Top.

The Flowers are numerous, large, and of a delicate yellow: they crown all the Extremities of the Branches, and ſpread into a broad large Head.

Each Flower has its ſmall permanent Cup formed of one Piece, and divided into five Segments.

The Body of the Flower is compoſed of five Filaments; they are long, oval, expanded, and have narrow Baſes.

In the Centre are placed ten ſlender Filaments; they are equal in Length to the Petals, and they ſtand expanded, and have erect very ſhort Buttons.

In the Centre of theſe is placed a ſingle ſmall Style crowned with a ſimple Head. The Rudiment from which this riſes is irregularly prominent, marked with a Croſs, and with ten Dots at the Baſe; and it becomes afterwards an irregular ſhaped Seed-veſſel, with five Cells; in each of which are many Seeds, rough, and angulated.

The ten Filaments ſhew the Plant one of the *Decandria*, and the ſingle Style refers it to the *Monogynia.*

Ciliate leav'd Rhododendron

The Storax Tree.

The Hop Hornbeam.

Ternate leav'd Rue.

Purple Tragacanth.

Lemon Saxifrage.

Culture of this RUE.

It is a Native of *Italy*, and other warmer Parts of *Europe*, and delights in a looſe rich Mould, but does not require much of it.

In the native State it no where ſucceeds ſo well as where there is a little fine Soil among Rocks. To imitate this we ſhould raiſe it in a Bed of rich Mould, cloſe at the Foot of a warm Wall. The Method of propagating muſt be by Seed, and there will require no more than the common Care allowed to thoſe Plants which are ſown in Spring.

The Seed muſt be that of the preceding Seaſon; and a deep Trench being filled near the Foot of ſuch a Wall, with any one of the light and rich Compoſts we have directed, the Seeds muſt be ſcattered on in the laſt Week of *March*, and covered half a Quarter of an Inch with the ſame Mould.

When the Soil is too dry, a little Watering muſt be allowed; and when the Plants come up, they muſt be thinned to a conſiderable Diſtance.

After this they will require Watering in dry Seaſons, but no farther Care except Weeding, and the common Attention ſhewn to other hardy Plants.

5. PURPLE TRAGACANTH.

Pl. 50. Fig. 5.

This moſt elegant as well as ſingular Shrub is ſo laſting in its Nature, and of ſo eaſy Culture, that no Garden, where any Thing curious is entertained, ſhould be without it.

The botanical Writers have a long Time been acquainted with it, but they have deſcribed it imperfectly and confuſedly under the Name of a *Poterium.*

GARIDELL has deſcribed it under the Name of *Tragacantha Alpina ſempervirens floribus purpuraſcentibus.*

LINNÆUS has aboliſhed the before eſtabliſhed Genus *Tragacanth*, and refers the Shrub uſually underſtood by that Name to the *Aſtragalus* Kind: this he calls *Aſtragalus caudice arboreſcente petiolis ſpineſcentibus:* woody Aſtragalus, the Footſtalks of whoſe Leaves terminate in Thorns.

This is that Author's Name for the common *Tragacanth* Shrub, and this elegant low Kind we deſcribe here is no diſtinct Species from it; but one of thoſe Varieties furniſhed by Nature, and capable of Improvement farther in Gardens.

The Root is of a vaſt Length, white, conſiderably thick, twiſted, and hung with many long thick Fibres.

The Stems are woody, numerous, and ſpreading; they lie in part upon the Ground, and rarely exceed a Foot in Height: they are whitiſh, thick, tough, and beſet with innumerable long and weak Prickles, formed of the pointed Footſtalks of former Leaves: theſe alſo are white and woolly toward the Baſe; and they are ſharp, though weak.

The Leaves riſe among theſe, and are ſmall and pinnated. Each is formed of ſix or eight Pairs of Pinnæ, with an odd one at the End; and theſe are of an oval Form; and white, and downy on the Surface.

Theſe Leaves remain all Winter upon the Plant; and afterwards, when the Spring ſends out a new Succeſſion, their Pinnæ fall off; but the entire Footſtalks remain, and aſſume the Form and Name of Prickles. This, as the Plant is very laſting, occaſions its being extreamly thick ſet with Thorns, ſo that it is difficult to touch it any where without Hurt.

Thus far the Plant is altogether white. The Flowers riſe frequent among the Leaves and Prickles without Footſtalks: they are of the *Papilionaceous* Form, moderately large, and of a very delicate pale Crimſon.

This Colour is extreamly ſet off by the Whiteneſs of the Plant; and as Flowers follow Flowers upon it for ſeveral Months, it remains a long Time a ſingular Ornament to the Garden.

Each Flower has its Cup, which is tubular, formed of one Piece, and divided at the Rim into five pointed Segments, the lower ones ſmaller than the upper.

The Vexillum, or upper Petal of the Flower is erect, obtuſe, nipped at the Top, and turned back at the Sides, and is larger than the others: the Alæ, or Side Petals, are ſmaller, and of a ſimple Form; and the Carina, or lower Petal, is nipped at the End, and of the Length of the Alæ.

The Filaments are ten; nine coaleſce and form a hollow Body, and one is looſe. This places the Plant among the *Diadelphia decandria* of LINNÆUS.

The Rudiment of the Pod is rounded, and from this riſes a ſimple Stile. The Fruit when ripened, is a Pod of two Cells. The Cells turned to one Side, and containing kidney-ſhaped Seeds.

Culture of this TRAGACANTH.

There can be no great Difficulty in raiſing in the Gardens of *England*, a Shrub which is common, wild upon Hills in the South of *France*. We are only to obſerve, that it muſt have a warm Spot; and as the Soil is not rich on the *French* Hills, that it muſt have a light though deep Earth for rooting.

Seeds may eaſily be obtained from *France*, and theſe ſhould be ſown in Spring in the Places where the Plants are to remain: no Place is better than ſuch as we directed for the laſt named Plant, a Border at the Foot of an old South Wall.

The Plants muſt be thinned when they have a little Strength, and at Times watered; no Weeds muſt be ſuffered among them. By this Management they will ſend their long Roots deep into the Mould, and between the Bricks, and in all Crevices of the Wall. They will need little Care when they are once thus eſtabliſhed, and will continue many Years an Ornament to the Garden.

If Seeds cannot be conveniently procured, the Plant may be propagated very well by Cuttings, but they will require the Aſſiſtance of Dung under the Mould; and to be ſhaded for ſome Time by Mats drawn over Hoops placed for that Purpoſe over the Bed.

The Seaſon for this muſt be the End of *April*; and as there will be other Trees and Shrubs ready at the ſame Time for the ſame Kind of Propagation, one Trouble will ſerve for all.

The Cuttings muſt be taken off cloſe to the Root, and the old Spines and Leaves cleared off from the lower Part of them. They muſt be carefully planted, and the Mould preſſed cloſe to them; and from Time to Time they muſt be watered.

The Aſſiſtance of the Heat from the Dung is only neceſſary for their firſt ſhooting of Roots, ſo that as it decays there will need no Refreſhment: the Plants may be by degrees expoſed to the Sun and Air, and they muſt ſtand there all the Winter, ſheltering them in the ſevereſt Weather by drawing the Mat over them.

The following Spring they may be planted out along the Foot of a Wall, at half a Yard Diſtance, and they will make flouriſhing and handſome Plants. They will require after this no particular Care; they will take up little Room, and that ſuch as would ſerve no other Purpoſe, and they will give an everlaſting Variety.

The Method from Seed is preferable, becauſe there will be ſome Variety in the Flowers; they will be of various degrees of Crimſon; and in ſome Plants the ground Colour will be very nearly white, and they will be ſtreaked with Crimſon like the Roman Cranes-bill.

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6. LEMON SAXIFRAGE.

Pl. 50. Fig. 6. The Garden excludes no Plant on account of its Size, if there be Elegance or Peculiarity to recommend it: This pretty Weed has both. The Growth is very pleaſing, and the Leaves as well as Flowers have their Beauty.

The old Writers were not unacquainted with it; but they have deſcribed it under an improper generical Name: the *Sedums* and *Saxifrages* have been greatly confounded together; and this which belongs to the latter Kind has been called by the former Name.

CLUSIUS calls it, *Sedum minus*. C. BAUHINE, *Sedum alpinum flore pallido*; and JOHN BAUHINE, *Sedum parvum montanum luteum*: the little Houſeleek, little pale flowered, and little yellow Mountain, or Alpine Houſeleek.

LINNÆUS refers the Plant to the *Saxifraga*, and adds as the Diſtinction of the Species, *foliis caulinis lineari ſubulatis ſparſis nudis inermibus, caulibus decumbentibus*: drooping Saxifrage, with the Leaves on the Stalks equal pointed, ſmooth, and placed at Diſtances.

Culture in a great meaſure takes away the Propriety of one of the Terms, that relating to the drooping Diſpoſition of the Stalks, for they are tolerably erect, the reſt continues unaltered; and there are ſo many Saxifrages, that the Name, though long, is neceſſarily ſo.

The Root is fibrous and ſmall.

The Leaves are very numerous, oblong, and moderately broad; of a fine freſh green, waved a little at the Edges, and obtuſe: they lie ſcattered in circular Cluſters on the Ground; and as the Plant encreaſes faſt by Root, there uſually are a great Number of theſe little Cluſters of Leaves together forming one great Tuft.

The Stalks are very numerous, ſlender, naturally of a pale green, often brown or rediſh, beſet with a few Leaves at Diſtances, and toward the Top branched. Their Length is ten Inches or more, but in the wild State of the Plant they uſually lie for the greateſt Part upon the Ground. In the better State of Culture they are more erect, but ſtill very ſlender, weak, and delicate.

The Leaves on theſe are oblong, narrow, ſharp pointed, and of a pale green, more or leſs tinged with brown or red, according to the Accidents of Growth.

The Flowers terminate all the Branches, and often there are a conſiderable Number alſo from ſmall Side Shoots from them: they are moderately large, and of a very delicate pale yellow; much the Colour of Lemon-peel.

The Cup is formed of one Piece, divided lightly into five Segments, and is permanent.

Five Petals compoſe the Flower, and they are broad and rounded, but with narrow Baſes.

In the Centre riſe ten ſlender Filaments with rounded Buttons, and in the Midſt of theſe appear two Styles: they riſe from a roundiſh Rudiment of a Fruit, and have obtuſe Heads. The ten Filaments refer the Plant to the *Decandria* of LINNÆUS, and the two Styles place it among the *Digynia*.

Sept.

The Seed-veſſel, when ripened, is of an oval Form, with two Beaks, and contains numerous minute Seeds.

Culture of this SAXIFRAGE.

The Plant is a Native of the colder Parts of *Europe*, and will ſtand any Weather in an open Border. It naturally lives where there is a poor Soil and ſome Moiſture, on the rocky Bottoms of Hills, and about the Heads of Springs.

The Seeds ripen freely, and from them the Plant is to be propagated with great Eaſe. A Spot is to be choſen in ſome ſhaded Part of the Garden, and freſh Paſture Mould is to be put into the Place with a very ſlight Covering of the common Earth of the Borders.

On this the Seeds are to be ſown in the Beginning of *Auguſt*, and the Plants are to remain there, only thinning them, and keeping the Spot clear from Weeds. They will by Degrees increaſe in Bigneſs, till from every Root there will be a riſing Tuft of a Foot Diameter, covered at the Seaſon with innumerable Flowers on Branches, ſome upright, ſome leaning, and ſome lying in a very pleaſing Manner upon the Tuft.

Theſe ſmall Plants deſerve more Regard than is uſually ſhewn them in Gardens: few have a juſt Idea of the Advantages of Variety; and beſide that Benefit, there is a Look of Wildneſs and free Nature given by theſe, which never fails of pleaſing.

SECTION II.

Of the Diſpoſition of a GARDEN.

IN the preceeding Number we led the Reader through every Conſideration that ſhould have Place in the Choice of a Piece of Ground for a Garden: we will ſuppoſe the Spot is now fixed upon; and proceed to conſider its Diſtribution and the Arragement of the ſeveral Parts.

Theſe are three, 1. The Pleaſure Garden, with 2. The Nurſery or Seminary for its Supply; 3. The Kitchen Ground, and 4. The Orchard.

The general Term Garden comprehends all theſe; and, properly ſpeaking, no Garden is compleat that has not all the Parts; nor can any one of them properly anſwer the Purpoſe of another.

The Flower Garden muſt be crowded with Seedlings, which have no Beauty; unleſs there be a Seminary for raiſing theſe, and retaining them till they are in a Condition to flower. And in the ſame Manner are the Orchard, the Eſpalier, and in all Parts of the Garden, dependant upon that eſſential tho' unornamental Part of the Ground.

The Gardeners Taſk is indeed become eaſy by the Nurſeryman doing the greateſt Part of it for him; but on the Principles whereon we eſtabliſh the Practice of that Art, every thing ſhould be done with his own Hand; a Seminary will be neceſſary for many of his flowering Plants, tho' he ſhould follow the beaten Path of buying his Fruit Trees from the Nurſeryman: but as a ſmall Spot will ſerve for the performing all that Buſineſs for himſelf, it ſhould by no Means be omitted. We will ſuppoſe the Garden now to be deſigned is on this Plan, and ſhall treat of its ſeveral Parts, beginning with the Seminary as the Supply for all the others.

CHAP. II.

Of the SEMINARY.

LET the Deſigner of the Gardener in this extenſive View, take into his Imagination the Idea of the whole before he begin with forming any Part.

Let him conſider the Pleaſure Garden as the eſſential Article, and reſerve for this not only the Body of the Ground, but every accidental Part that can be uſeful.

Wherever there is a fine View or a new Object, let the Spot be certainly ſet apart for that Purpoſe, and when it is known by this Choice what can be ſpared, let him firſt look among that for a proper Part for the Seminary.

It will be proper to begin by laying down the Form of the Ground upon Paper: then having marked by a ſecond Line what Quantity is deſigned for the Pleaſure Garden, the Remainder between theſe two Lines will be the Part preſerved for the Seminary, Orchard, and Kitchen Garden.

This Plan ſhould be aſcertained by a Scale, and marked with the Points of the Compaſs; and the Deſigner may then form his Diſtribution upon the Paper, and afterwards transfer it to the Ground. This is the Seaſon for putting the Seminary in firſt Order, and 'tis therefore we deferred to this Place, the Directions for its Management in the original Deſign.

The Plan of the Ground being laid down, let the Deſigner, before he chuſe a Part for the Nurſery, conſider its Importance, and the Requiſites to the Succeſs of thoſe Things which are to be raiſed on it: he will find the Situation and Soil ſo eſſential to Succeſs, that he will know the Proſperity of his whole Work depends upon it.

In this Part are to be raiſed all Kinds of Flowers from Seed, all Foreſt Trees and flowering Shrubs from their Seeds, Layers, or Cuttings; and Stocks for the grafting and buding of Fruit Trees. In this Manner, he will find how much the other Parts depend on this; and though he knows that any Shape or Form of the Piece of Ground will do, yet he will perceive there is no trifling with regard to the Situation and Expoſure.

Let the Piece on this Plan be open to the South Eaſt, and defended by Buildings, high Walls, or thick Plantations from the North. If it be irregular, in reſpect to the Surface, that is no Objection: different Degrees of Expoſure ſuit different Things, and it will by that means afford a juſt and uſeful Variety.

Let it be remembered, that in treating of the Varieties of Flowers, the Quantity of Seedlings has been declared the true Source of Expectation; and let the Piece of Ground be therefore choſen larger than the common Cuſtom, in Proportion to the Garden it is to ſupply; that there may be Room for this Multiplicity of the young Produce.

Let there be Shelter againſt furious Winds, and Shade from the full Sun of Noon Day. This is always in the Gardiner's Power, for there are Trees enough which grow freely, and will in a very ſhort Time ſupply that needful Purpoſe.

Let the Soil be a good Paſture Mould, and in the digging it at firſt let the Gardener obſerve what Parts are dry, and where there is moſt Moiſture, marking them for the neceſſary Purpoſes. No Manure muſt be uſed for this Part of the Ground; for it muſt not be ſo rich as that in which the Plants are finally to ſtand.

There will require Vigour in this Part, though Richneſs would be a Fault; and this Kind of Strength is to be found in the Freſhneſs of the Earth, or obtained by good Tillage In a Place where there have been no large or deep-rooting Growths, the Mould under the Turf is unexhauſted, and its Freſhneſs will anſwer all the Purpoſes of Nurſery Culture.

When it has been impoveriſhed by other Growths, the Way to refreſh it again is, by a good digging, and a proper Kind of Fallow; throwing up the Ridges Eaſt and Weſt, and breaking and turning them up afreſh after they have lain to receive the Influence of the Air.

The wet Parts muſt be reſerved for fibrous rooted Plants; the dry for bulbous and tuberous Flowers, and that which is deep and of a middling Nature for Trees. In Soils which are too dry, the Trees will grow ſlowly; but in ſuch as are moiſt they will not continue ſound.

The Piece of Ground thus choſen, and its Qualities underſtood, it muſt be trenched two Foot deep; and in doing this, all Roots of perennial Weeds muſt be picked out carefully. This ſhould be the Buſineſs of the preſent Week; and it ſhould lie about three Weeks after in that Manner to mellow and ſweeten; and to receive the Influences of the Sun and Air. At the End of that Time let it be all laid level, and marked out into Diviſions, Beds, and Quarters, according to its Nature and the intended Service.

Let none of the Beds be broader than four Foot and a half; for the Convenience of weeding: and let the Quantity of each Kind that will be wanted, be the Rule for the Proportion of their Length.

The Ground, thus levell'd and divided, will be ready for planting and ſowing; and the Seaſon for that Work in each Kind will be come.

Kernels and Seeds of the ſeveral Species may now be put into the Ground; and Stocks raiſed elſewhere, may be now alſo planted.

The Gardener knows that he is here to raiſe all biennial and perennial Flowers. In ſome Beds muſt be at the due Time planted the Off-ſets of bulbous Roots, preſerving them there till they are of a Bigneſs for the Flower Garden: in other Beds muſt be planted out Seedlings for gaining their due Growth and Strength for flowering. The delicate Way is to let thoſe Kinds which are laſting, flower once here, that it may be known what they are, before they are removed into the Garden.

The Methods of performing their ſeveral Articles, and their proper Times, we have given in the Courſe of the Work; they are only recapitulated here to give a general View of the Uſe and Purpoſe of the Seminary; that the Gardener may not ,by forgetting ſome Articles, be induced to allow it too little a Compaſs.

Water is an eſſential Thing to the Seminary, for all tranſplanted Roots require it in Abundance; and Care muſt be taken near ſome central Part of the Ground to have a Pond for retaining it, that there may not only be always enough in Readineſs, but it may be of a Kind and Temper fit for the Service.

The Seminary ſhould be concealed from the Garden, but the nearer it is to the middle of that Ground the better; for the Removal of Plants out of this Part into the Borders will be continual, and the leſs Way they are carried the better they will always ſucceed.

Care muſt be taken that the Ground be well fenced; for no Part of a Garden is ſo liable to Miſchief by the breaking in of Vermin; and there ſhould always be a Number of Traps ſet for the creeping; and Lime Twigs, or Trap Cages for the flying Devourers.

The Seeds and Shoots of Plants and Trees never fail to call theſe Creatures together, and they will dig for them into the Ground, or tear them up by the young Shoot, as ſoon as they appear.

The Labour of many Months, and Produce of the remoteſt Parts of the Earth, may thus be the Food of a Mouſe, or a Sparrow; unleſs theſe Cautions are uſed to prevent the Miſchief.

Finally, let the Ground be ſo diſpoſed that it may at Times have the Advantage of Reſt, and a kind of Fallow.

Nothing in the Culture of Plants is better known, than that the ſame Piece of Ground will not from Year to Year ſupply and ſupport the ſame Growth, in Vigour. Changing the Plants from one Bed to another is a common Remedy for this; and ſome finding that inſufficient, are at the Trouble of removing the Soil, and bringing in freſh at every Plantation. There is a Way much eaſier, and of equal Advantage.

We have directed the marking and dividing the Ground into Beds, with Alleys between, and there ſhould never be in a Nurſery any other Walks than ſuch Alleys; no Graſs, no Gravel, nor Sand Paths. Theſe anſwer the Purpoſe; for it is not a Part of the Garden intended for Walks of Pleaſure; and theſe ſhould be dug up every Year, and made into Beds; and the Part that was Beds into Alleys.

This is very eaſy; it is attended with no particular Expence, and it fully anſwers the Purpoſe. The Trouble of drawing new Lines is all; and the Ground by this means, though it always wears the ſame Face, yet will be in a conſtant Courſe of Change and Succeſſion.

Every Year the Beds where the Roots are muſt be dug up: the Time is different according to their ſeveral Natures, but once in the Courſe of twelve Months it muſt be done, fixing upon the Time when the Roots are moſt in a State of Reſt. It is the Cuſtom to break up the Bed; and when it has been well dug, to plant the Roots in it again. Inſtead of this let the Bed, and the adjoining Alley, be dug up together; and the Alley be marked out where the Bed was before.

The former Alley will by this means be the Bed, or will make at leaſt a great Part of it: and as this conſiſts of Mould on which nothing has grown for a full Year, it will be in a Condition of Freſhneſs; and that which was the Bed, will by this Means have alſo a Year of Repoſe.

Mr. Tull, who happily applied Reaſon and good Senſe to the Culture of Land, found by this Means that the ſame Piece of Ground would nouriſh Year after Year the ſame Crops: and there is the Proof of Experience for it in this Article.

Such is to be the Care of the Seminary, and of ſeveral Kinds will be the Growths planted or raiſed in it.

The common Care of Weedings and Watering are all this Part requires in Summer; and in Winter, all that is needed farther is the ſheltering and defending the young Plants of the tenderer Kind by Mats drawn over the Beds, or warmer Covering laid about the Roots of the Plants and Trees.

The Gardener ſees by this Review, that no Garden can be kept in order without the Aſſiſtance of a Seminary; and he ſees at once before him all that is eſſential concerning it. This is the Time for fixing upon the Spot, and preparing the Ground.

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CHAP. III.

Of the ORCHARD.

THE Method of planting Fruit Trees againſt Walls and in Eſpaliers, gives the finer Kind a natural and advantageous Place in the Garden; but beſide theſe, there ſhould always be an Orchard.

The Produce of the Wall and Eſpalier Trees is principally for the Deſert; the Kitchen requires its Proviſion alſo, and that is made from Standard or Orchard Trees.

Cyder is alſo an Article in many Places of great Conſideration; and Perry requires only to be more known, to give it the Preference over many expenſive Wines.

Theſe Liquors are made from the Fruit of ſtandard Trees; and where any Thing of this Kind is intended, the Orchard muſt have more Extent in Proportion.

If the South Eaſt Part of the Ground reſerved from the laying down of the Pleaſure Garden be not occupied by the Seminary, there is no Aſpect ſo good for the Orchard: if that cannot be had, a Spot muſt be choſen that is defended from violent Winds, yet open to a free Air; and which has many Hours Sun in the Day.

It is a Thing of great Advantage to plant an Orchard upon a Piece of Ground which has a gentle Aſcent. The Air blows naturally more free in ſuch a Place, and that is of great Benefit to the Fruit; and the Wet runs off.

If the Deſcent be too great, the Mould will be waſhed away by hard Rains; and if the Ground be perfectly level, the Wet will lodge, and the Vapours from it will foul and ſpoil the Air: both theſe Accidents are to be avoided; and ſuch a Choice as we have directed, will, in a manner inſure the Succeſs of the Plantation.

The Ground being thus choſen, the Diſpoſition of the Trees is the next Thing to be conſidered; and in this we muſt guard our Pupil againſt two Errors almoſt univerſal among the common Deſigners of theſe kind of Plantations; theſe are the planting too many Trees on the Ground, and the ſuffering it to remain covered with the Turf.

There cannot be a more gloomy Proſpect than one of the old *Engliſh* Orchards: Trees ſo cloſe that their Tops meet, and a green Sward beneath, of no Uſe becauſe ſpoiled by the perfect Shade; and yet ſerving to rob the Trees of that Influence of the Air, Rains, Dews, and Sun, ſo eſſential to good Vegetation.

It is very well known that the Fruit is fineſt where the Trees ſtand free, and clear of one another; and it is not leſs true that it will be alſo more in Quantity, if the Gardener thinks proper to leave all on which Nature affords: ſo much as the Tree can ripen, will always be much better; and a ſmall Spot will even in this Way ſupply a large Family.

The Blaſts of Spring which are ſo miſchievous to Fruit Trees, are principally thoſe of the North, or of ſome near Quarter, therefore Care ſhould always be taken to ſhelter the Orchard from them.

If the Spot can be ſo choſen, a riſing Ground defended from thoſe Winds, is beſt of all: the next Defence to this is that of Buildings: if both theſe are wanting, their Place muſt be ſupplied by a good Plantation of Trees, Elms, or of ſuch other Kinds as ſuit the Soil and Situation.

Theſe muſt be planted at ſome conſiderable Diſtance, though exactly againſt that Quarter; for if too near, they would choak the Trees, and rob them of a great deal of their proper Nouriſhment.

This Defence being ſecured, and the Quantity of Ground ſettled, let it be dug up in the ſame Manner as that for the Seminary, and all Roots of perennial Weeds taken up with the ſame Care.

When this has been done three Weeks or a Month, it will be a very good Seaſon for planting. The Surface muſt then be levelled, and Lines drawn for the Plantation. This is of all others the moſt important Article.

We ſee the Trees in old Orchards planted at fifteen Foot aſunder, as if thoſe who made the Plantation forgot they would ever be larger; and conſequently their Branches meet, and the Air is pent up among them: the Trees ſtarve one another, and the Damps which are detained by the thick Shade, taint and ſpoil the Air.

On the contrary, we find modern Inſtructors adviſing the Plantation in Rows a hundred Foot aſunder, and that the Trees ſtand ſixty Feet one from another in the Rows.

The Intent of this is to raiſe Corn upon the Land as if no Trees were there: but we have on all Occaſions inculcated that practical Leſſon, that only one Thing ſhould be attempted in one Place; and that the ſame Piece of Ground will yield more Advantage to the Owner by one Crop than by two; becauſe the two will ſpoil one another, and the ſingle Crop having all fair Advantages, will be more than worth both; and this not only in Excellence, but abſolute Price and Quantity.

Therefore when the Plantation of an Orchard is to be made, let the Trees be allowed ſo much Diſtance from one another, as that their Roots may have room, and their Branches at full Growth a free Scope and fair Diſtance; but let no more Compaſs be allowed, nor any Thought entertained of Crops between.

Let the Rows be marked by Lines at forty Foot Diſtance, and the Places for the Reception of the Trees opened at the Diſtance of five and thirty Foot.

From the Time that the Trees are planted, let no Thought be entertained of raiſing any other Crop upon the Ground; but let it be kept in a State of good Tillage, and continual fallow from that Time.

By this Means the young Trees will make an Advance not known in other Plantations. Their Roots will be invited to expand every Way by a free, open, and looſe Soil; and as it will have been meliorated by Culture, and unexhauſted by any other Growth, it will be extreamly rich, and every Fibre will be ſupplied with abundant Nouriſhment.

Let none ſuppoſe they can loſe Ground by this kind of Plantation. The Fruit will always be fine, becauſe there is every Way a free Paſſage for the Air; the Bloſſoms will be preſerved becauſe the Place is ſheltered; and there will be no Blights, becauſe all the Trees have full Nouriſhment; no Mildews, or other Accidents of that Kind, becauſe no Air ſtagnates in the Plantation. This is the Doctrine of Reaſon, and this Experience confirms.

The Form, Conſtruction, and Diſpoſition of an Orchard being thus underſtood, the Choice of the Trees comes next under Conſideration; and the Manner of planting them.

The Kinds of Fruit are wholly at the Pleaſure of the Planter, but as there are particular Soils which ſuit particular Trees, it will be a very great Article to ſuit them to one another. Of this we have ſpoken in the preceding Parts of this Work, and ſhall under the following Heads concerning the ſeveral Kinds.

Let them be obtained from ſome Perſon of Integrity, and planted with more Care than the general rude Manner of working allows.

The Holes being opened to a conſiderable Breadth, and the Mould very well broke at the Bottom, let the young Trees be brought in, their Roots trim'd, and the Mould laid about them with Care. This we have directed at large before.

Let a firm Stake be driven into the Ground by each, and let the Stem of the young Tree be tied up to it in two or three Places with a Hay-band; then give a very good Watering. Lay ſome thick Turf round about the Stem, with the graſſy Side downward, and thus they will remain ſecure during the Winter.

Early in Spring let the Ground be plowed deep; and the old Turf being removed, let a freſh Parcel be laid round each Tree. After this they will require no more Care beſide occaſionally plowing up the Ground, till they are grown to a State for pruning.

Of this we have treated at large, but it may not be amiſs to recapitulate the Matter in a few Words here.

The Trees muſt be brought in young; for though large ones may be removed in many Kinds, yet the Expence is much greater, and the Advantage leſs: for they will not bear ſo well, nor continue ſo long as thoſe planted at a proper Growth.

Care ſhould be taken that they are brought from a Ground that is not too rich, for in that caſe they would have a Check from the poorer Quality of the Orchard Soil, very difficult to be recovered.

The Pruning will conſiſt chiefly in cutting out dead Branches; and clearing the Head where it happens to be encumbered by too many growing together.

When it happens that two croſs one another, that which can beſt be ſpared muſt be removed; for they would otherwiſe gall one another, and both would be ſpoiled.

This is the whole Syſtem of pruning Standard Fruit Trees; for when their Branches are ſhortened, it only ſpoils the Heads, and throws out uſeleſs Wood.

The Orchard managed in this Manner will ſupport itſelf without farther Expence: if the Soil be tolerably good, it will require no Addition of Manure.

It is cuſtomary on other Occaſions, once in two or three Years to refreſh the Ground with Dung; but, in general, the repeated Plowings anſwer that Purpoſe at a ſmaller Expence, and the Fruit is certain to be better taſted. If it happen that there appear a Want of Refreſhment, it will be beſt given in Spring, and an equal Quantity of Soot and Hogs Dung, is preferable to any other Addition. A ſmall Portion of this will anſwer for a great deal of Ground, and it muſt be ſcattered on juſt before one of the Plowings.

When Trees of different Growths are planted in the ſame Orchard, it is a good Rule to place thoſe fartheſt back which will out-grow the reſt, and the others gradually forward; all will then thrive; and what would in a promiſcuous Plantation have been an Occaſion of great Irregularity, will thus be a particular Beauty.

If any Tree or Trees in a Plantation made with this Regularity, do not bear ſo well as the reſt, or ſo well as might reaſonably be expected, ſpread a little Manure, ſuch as we have directed, round the Stem every Way to ten Foot Diſtance: if this does not anſwer the Purpoſe, examine whether the Ground be particularly damp in that Place; and if it be, open a Trench to let off the Wet: if this be not the Caſe, examine whether the Tree be not planted too deep; if that appear to be the Cauſe, raiſe it, and pare away the Ground till it be no more covered than it ought to be; that is, till the upper Roots are within an Inch of the Surface.

If this does not anſwer, thin the Head by cutting away ſuch Boughs as ſhade or crowd upon one another. One or more of theſe Methods will certainly remedy the Miſchief.

Thus is an Orchard to be planted and kept in order.

CHAP. IV.

Of the KITCHEN-GARDEN.

THE Seminary and Orchard conſidered, we have only the Kitchen Ground to lay out before we come to that intereſting and important Article, the Diſpoſition and Form of the Pleaſure Garden.

No Family in the Country ſhould be without a Kitchen Garden, whether or not they have any other: and the Succeſs of this, and all its Crops, will in a very great meaſure depend upon a due Choice of the Piece of Ground. Where the other Parts of a Garden are large, this ſhould preſerve its Proportion; for there is a Merit in the Correſpondence of one Part of the Ground with another; and larger Families need more Supplies.

The Shape of the Piece of Ground allotted for this

Sept.

this Uſe, is of no Importance, but its Situation is of a great deal. Dung will be required for the Hot-beds, and other Uſes, in great Quantity; and that it may be at hand, the Kitchen Garden ſhould be at no great Diſtance from the Stables.

A free mellow Soil is alſo eſſential to this Purpoſe: If it be too poor, that is eaſily mended; but if gravelly, or of the Nature of a tough Clay, there will be too much Labour in the working it, and a great deal of Difficulty in obtaining any good Produce.

Therefore when a Piece of Ground of due Extent, and of a free Soil, neither parched up with Drought, nor drenched with Wet is choſen; the Management of it is eaſy. Theſe which we have named are Faults not to be remedied: the Conveniencies to be ſought, beſide thoſe we have named, are Depth of Soil, and the Convenience of Water.

There is a Neceſſity that the Soil be in ſome Parts two Spades deep; and if Nature have not afforded this, Art and Induſtry muſt do it by digging out the Bottom, and throwing in good Mould. Theſe Places are afterwards to be reſerved for deep rooted Plants, Carrots, Parſnips, large rooted Parſley, Horſe-radiſh, and the like.

As ſoon as the Ground is thus fixed upon, it ſhould be dug up two Spades Depth wherever the Soil allows, and as deep as may be elſewhere. Then the Surface muſt be levelled; and the Quarters laid out in ſuch manner as hide the natural Irregularities of its Form, and ſuit the ſeveral Parts to their intended Growths.

Neareſt the Place where the Water is, ſhould be marked out the Beds for thoſe Crops which will require the moſt of it: for the Labour of carrying a great deal of Water to a Diſtance, muſt always be ſaved as much as poſſible. For the ſame Reaſon the Hot-beds for Melons and Cucumbers muſt be placed near the Stables, that there may be as little Carriage as poſſible for the Dung.

It will be very proper when the Ground is firſt dug, to ſpread over it a good Quantity of old Cow Dung, Wood-pile Earth, Pond Mud, and Coal Aſhes: theſe will be mixed in when the Ground is dug up for the ſeveral Crops, and they will enrich it in a very proper Manner.

Sept.

If there be a gentle Aſcent from one Part of the Ground to another, it is ſo much the better, for there will be dry Spots for ſome Services, and thoſe which have more Moiſture for others.

It ſhould be open to the Sun, but well defended from the North Winds; and the beſt Fence is walling all round. This anſwers many Purpoſes. It conceals the Kitchen Ground from View; it defends the whole from Cold, and there will be ſpace about theſe Walls for Fruit Trees, which never thrive better than in a Kitchen Garden. Of this the intelligent Gardener will eaſily conceive the Reaſon.

We have told him that the Roots of Fruit Trees ſpread very far; and that it is ſerviceable in the higheſt degree to dig and enrich the Ground at ſome Diſtance. When they have broad Borders, and well cultivated Ground beyond, they will be in the beſt poſſible Condition for bearing.

At a Diſtance beyond the Wall, it will be very proper on the North Eaſt to plant ſome large growing Trees: they will break the Power of thoſe Winds which are moſt hurtful to the Spring Crops, and prevent a great deal of Miſchief. For the reſt, the Ground ſhould be open: all ſhadowing from Trees or Buildings is bad.

The Height of the Walls ſhould be twelve Feet, and the Borders for the Fruit Trees ſhould equal theſe in Breadth: this is properly the firſt Article in the Diſtribution of the Ground. An Alley of three Foot ſhould be marked out juſt within theſe; and thus the Quantity will be reduced to a much ſmaller Compaſs.

It is the Cuſtom to ſow ſlight rooting Crops upon the Borders under the Walls; but we have before obſerved that this is wrong, for more is loſt in the Fruit than is gained in the Herbage. They ſhould always be kept clear, and often turned.

The reſt of the Ground muſt be laid out into long Beds, with narrow Alleys for the ſeveral Kinds of Kitchen Products; and where there is a good Extent, the whole ſhould be laid out into ſeveral large Quarters, planted with Eſpaliers: but in ſmall Kitchen Gardens, theſe and the Crops ſpoil one another. This is the right Diſpoſition of a Kitchen Garden, the Management we have given under the former Heads.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER LI.

For the Beginning of *SEPTEMBER.*

SECTION I.

FLORA, or *the* PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. BEURERIA.

Pl. 51. Fig. 1.

WE place here before the curious Eye, one of the fineſt Shrubs with which *America* has enriched our Gardens: in which every Circumſtance of Value concurs, Singularity, Fragrance, and Beauty; which bears our Winters; and ſhould have been long before this Time known more generally.

The Antients could know nothing of it, for no Country except *America* affords it native; but what is ſtrange, is that although it has been in *England* many Years, few have taken it into their Gardens; and though known familiarly a great while, it has not yet an eſtabliſhed botanical Name.

We owe the firſt Knowledge of it to CATESBY, an indefatigable Searcher after natural Curioſities in thoſe Countries he traverſed for that Purpoſe: he has figured and deſcribed it in a faithful, if not accurate Manner, and has named it in his Way, *Frutex corni foliis conjugatis, floribus inſtar anemones ſtellatæ, petalis craſſis rigidis colore ſordide rubente, cortice aromatico:* that is, Aromatick barked Shrub with coupled Leaves like thoſe of the Cornel, and duſky red Flowers, with thick rigid Petals formed like the ſtarry Anemones.

A better Account of its Characters we owe *G. D. Ehret*, the beſt modern Deſigner in Botany. His accurate Hand gave us a Figure of it under the Name of *Beureria petalis coriaceis oblongis, calycis foliolis reflexis:* Beureria with oblong tough Petals to the Flower, and with the Leaves of the Cup turned back: it has ſince this been called in *France Butneria*, and here *Baſteria:* but it is ſingular, that although *Ehret*, whoſe Fidelity LINNÆUS knew to be equal to his Diligence, ſo long ago as in 1749, deſcribed and figured it, and long before him the firſt named CATESBY; yet that Author has not given it a Name or Place in his *Species Plantarum*, though publiſhed after *Ehret*'s Drawing was made; nor in his laſt Edition of the Genera in 1754; or his *Syſtema Naturæ* in 1756. though the Figure by *Ehret* was publiſhed before that Work.

No-body could have more Right to give a Name to it than *Ehret*, who firſt aſcertained and figured its Characters. We therefore continue it that he gave, *Beureria*, which the Reputation of Mr. BEURER may very well warrant: but as there is no other known Species of this Genus, there needs not the Addition; it will be proper to call it ſimply by that generical Name.

Our Gardeners from the Figure of the Flower, or from what they had heard of the firſt Name given by CATESBY, called it the Anemone Tree; and ſome from the Fragrance of its Bark, which has the Scent of Nutmegs, Cloves, and Mace, at once, the All-ſpice Tree.

It is a tall Shrub of irregular Growth, very handſome in its natural wild Form, and capable at the Gardener's Pleaſure of being trained up to a regular Tree.

The Root is large and ſpreading; the Stem is firm and rough; the Branches are numerous, and ſpread irregularly, and their Bark is a pale brown.

The Leaves are broad, of a lanceolate oval Form; that is, oval except that they grow ſmall again at the Baſe, and of a freſh but not deep green; undivided at the Edges, ſharp pointed, and lightly rib'd: they ſtand in Pairs, and diſpoſe themſelves in all Directions.

The Flowers are the moſt ſingular of any thing in the botanical World: they are large, elegant, and of a deep but very duſky Purple; compoſed of numerous Petals waved, and irregularly diſpoſed about a Multitude of Heads; and they have a faint but very ſingular Smell. The Bark has an aromatick Smell, a much higher Degree, The Conſtruction of the Flower is this.

The Cup is formed of a ſingle Piece, thick, of a ſemi-oval Shape, or as if the larger End of the oval had been cut off, and hung about with five Segments. Theſe do not riſe from the Verge, or Edge of the ſolid Part, but break out irregularly from the Sides, toward the Middle ſome larger, and others ſmaller; and ſome higher, others lower.

The Petals riſe from the Edge of the ſolid Part of the Cup, at ſome Diſtance above the Segments: they are about four and twenty in Number, and are diſpoſed in two Series; thoſe of the outer Series naturally ſtand expanded, thoſe of the inner turn inward at the Points: they are all oblong, pointed, and a little waved. Their Subſtance is very tough and firm.

Thoſe of the outer Series terminate, plain as the Petals of other Flowers; but at the Extremity of each of the Petals of the inner Series, there is a ſmall, round, whitiſh, glandular Tubercle.

The Filaments are about twenty; they ſtand in a regular circular Series round the Verge of the Cup, cloſe within the Inſertion of the inner Series of Petals. They are of a moſt ſingular Structure, thick, moderately long, coloured as the Flower, and a little bent outwards.

Each is terminated by a Gland in the manner of the inner Series of the Petals; and as this takes the Place where the Buttons ſhould naturally ſtand, that needful Part is fixed to the outer Part of that Prominence, which is formed by the bending of the Filament.

Theſe Buttons are oblong, yellow, and large; they adhere cloſe to this outer Part of the Filaments, but the whole internal Surface, or that which is toward the Centre of the Flower, is naked.

In the Centre of the Flower, ſurrounded by theſe Filaments, ſtand thirty or more Styles, each crowned with a ſmall globular Head. Theſe riſe from ſo many Rudiments of Seeds, which are lodged in the ſolid Baſe, or Body of the Cup.

Theſe are the ſucceeding Seeds, they have not ripened in *England*, nor have we any regular Account of the Fructification from Abroad. All that we know is, that as the Flower fades, the fleſhy Body of the Cup grows ſofter, and that the Rudiments of the Seeds are hairy.

The Claſs and Place of the Shrub in the LINNÆAN Syſtem, are eaſily aſcertained by theſe Characters: the numerous Filaments inſerted on the Cup ſhew it to be one of the *Icoſandria*; and the numerous Styles refer it alſo to the *Polygynia*.

Of all the known Genera it approaches neareſt to the Roſe; but the Difference is ſufficient to conſtitute a ſeparate Genus. This Difference conſiſts in the Segments of the Cup, which in the Roſe are regularly five, large, and continued from the Edge of the Body: whereas in this their Number is leſs certain; they are ſlight, and grow to the Sides, leaving an entire plain Edge.

In the Roſe the Petals are broad, and of the Length of the Cup, and are naturally but five: whereas they are numerous, narrow, and longer than that Part many Times: in the Roſe the Filaments are ſhort, and have the Buttons in a natural Manner, on their Tops; whereas here they are long, and have them placed in a very ſingular Manner on their Sides. Probably the Fruit of this Tree is like that of the Roſe Kind; ſo far as we ſee of it, the Appearance is evidently that of a Hep.

The Situation of the Anthera, or Button, on the Side of the Filament, though out of the uſual Courſe of Nature, is not particular to this Flower. 'Tis ſo in the *Herba Paris*, and in *Aſarabacca*; but the glandular Extremities of the inner Series of Petals are very ſtrange. Theſe are properly the Nectaria of the Flower, and thoſe on the Summits of the Filaments are perfectly the ſame: there is an Appearance alſo, that the Heads of the Styles are of the ſame Nature.

We ſee in the *Adenanthera* a glandular Subſtance growing from the Button, or Anthera, whence the Plant has been named; that comes nearer the Condition of this ſingular Appearance than any other; but the Continuation of the Filament above the Button, and its Termination by ſuch a glandular Subſtance in its Stead, is altogether peculiar to this Plant.

Culture of this BEURERIA.

It is a Native of the warmer Parts of *America*, but with due Care will live through the Year in our Gardens in the open Ground. We are to imitate Nature, who generally allows it a defended Situation, and deep Soil.

The Gardener muſt chuſe for it a very rich Piece of Ground in ſome warm Quarter, and if he dig in a good Quantity of Pond Mud and ſome old Cow Dung, he will mend the Quality of the Soil without heating it.

The beſt Method of propagating it is by Layers: Cuttings are very precarious; and we have obſerved, that it neither ripens Seeds in *England*, nor have we ſeen the mature Fruit from abroad.

The Method of making the Layers muſt be the ſame as in other tender Shrubs.

A Quantity of rich Garden Mould muſt be put

into

Sept. into a long rough Box, and this muſt be ſupported on a Treſſel ſo high, that the Branch intended to be laid, can be brought down to it without much Force.

Then let an Opening be made along the Mould in the Box, and a young Branch of the Shrub brought down to it without much Violence.

Let ſome Holes be pierced through the Stalks about the Inſertions of the Leaves, and a Piece of Braſs Wire be twiſted round it tight juſt above. In this Condition lay it in the Opening, faſten it down by Pegs; and covering the Mould, let it have a moderate Watering when it is firſt laid, and let this be repeated as often as the Mould requires it. There is a great Advantage in uſing a large Box of Mould on this Occaſion, for it continues much longer and better in a growing Condition than a ſmall Quantity; and there is Danger in frequent Waterings of chilling the new Roots.

The Layer ſhould remain a Year in this Condition, and it may then be removed and planted in a warm Situation with the ſame good Soil. It will flower after two or three Years, and from that Time conſtantly, and in vaſt Profuſion.

2. THURINGIAN LAVATERA.

Pl. 51. Fig. 2. This is a well known and very ſpecious Plant: frequent in the Gardens of thoſe who love Variety, and worthy to be brought into all. The old Writers were acquainted with it, though not under the preſent Name; they called it a *Marſhmallow.*

Camerarius named it from its Country, *Thuringian*; and this Dillenius followed, adding the expreſs Epithet, *Grandiflora:* large-flower'd *Thuringian Marſhmallow.*

C. Bauhine calls it alſo *Althea flore majore:* great flower'd Marſhmallow; and by one or other of thoſe Names it was known till the Time of Linnæus: he refers it to that Genus diſtinguiſhed among the Mallow Kind by the Name *Lavatera*; and adds as its Diſtinction, *Caule herbaceo fructibus denudatis calycibus inciſis:* herbaceous Lavatera with naked Fruit and divided Cups.

The Root is long, and hung with many Fibres.

The firſt Leaves are roundiſh, heart-ſhaped at the Baſe, waved at the Edges, and placed upon pale green Footſtalks; their Colour in the whole is a delicate but not ſtrong green.

The Stalk is round, pale, and irregularly divided into Branches tolerably firm, and a Foot and a half high.

The Leaves on this are broad, ſhort, ſinuated deeply and irregularly, and of a paler green than thoſe from the Root.

The Flowers are very large and ſpecious; they grow at Random in all Parts of the Plant, and they are of a fine purple Crimſon. In this however there is great Variety, ſome are deeper ting'd, ſome paler, and ſome abſolutely white.

The Conſtruction of the Flower and Parts of Impregnation very well deſerve Attention. We have obſerved that it is one of the *Mallow* Kinds, and it very ſtrongly and very well expreſſes the Characters of the peculiar Genus to which it belongs.

Before the Time of Linnæus that large Arrangement of Plants, to which we may properly give the general Name *Mallow*, was diſtributed at Random under the Denominations of *Malva, althæa* and *Alcea:* mallow, marſh, and nervain Mallow; thoſe who applied theſe Names to the peculiar Kinds, ſcarce knowing why they did ſo.

This Author formed the true Diſtinctions: referring the whole Tribe to certain regular Kinds, he gave and aſcertained the Term *Lavatera* to this and the others of its Sort, with the following diſtinctive Characters.

There are two Cups, an outer and an inner; the outer Cup is that formed of one Piece, and divided into three Segments; the inner Cup is formed alſo of one Piece, divided into five Segments, and both remain with the Fruit. The Flower is formed of five broad Petals, connected at the Bottom by very narrow Baſes.

The Filaments are numerous, they unite in their lower Part into a Cylinder, and are inſerted on the Petals; in the upper Part they are looſe and free, and they are terminated by Kidney-ſhap'd Buttons.

In the Centre ſtands a large rounded Rudiment, with a ſhort cylindrick Style, and numerous feather'd Heads.

When the Flower is fallen, the Rudiment ripens into a rounded Fruit, compoſed of a Kind of jointed Parts or Capſules, fixed to the Column or Receptacle. In each of theſe Joints or Capſules is one Kidney-ſhap'd Seed.

The Coaleſcence of the Filaments into one Body, ſhews the Plant to be of the *Monadelphous* Claſs, and their Number refers it to the *Polyandria* under that general Head.

Culture of this Lavatera.

It is a Native of many Parts of *Europe*, and grows a Weed in Hedges like our common *Mallow*. The Gardener will therefore know there needs no great Care or Attention to raiſe it in the open Ground.

The Method is by ſowing, and the great Care is to ſave good Seeds.

One Plant will ripen enough to raiſe ſome thouſands, but the Gardener has been told already, that to ripen a great Quantity is not the Way to make the Plants fine; let a ſtout Plant be choſen, and only a moderate Number of Flowers be ſuffered to ſtand for Seed. Let theſe remain on the Plant till very well harden'd; and after that let them be ſeparated, and ſpread upon a paper'd Shelf: after a Fortnight's lying there, and frequent Turning, let them be tyed up in a Paper, and hung up in the Seed Room till Spring.

In the middle of *March* let a Bed of good freſh Mould be dug up in the Seminary; and levelling the Surface, ſcatter on the Seeds pretty thick; ſift over them a Quarter of an Inch of the ſame Mould, and leave them to Nature.

When the young Plants appear, let them be thinned to four Inches Diſtance, clear'd from Weeds, and water'd often.

In the Beginning of *May* they will be ready to tranſplant, and another Bed muſt be choſen for them in a ſhady Situation. In *September* they muſt be removed into the Borders where they are to flower, and kept weeded; and in Spring often watered.

They will flower in their full Perfection, and there will be a great deal of Variety in the colouring.

From the fineſt Plants ſome Seeds ſhould be ſaved according to the Directions already given, and thus every Seaſon; there will by this Means not only be a conſtant Succeſſion, but a continual Improvement of the Flowers in Bigneſs, and in the Delicacy of their colouring.

3. The STRIP'D LILLY.

Pl. 51. Fig. 3. This is a very fine and fragrant Flower, with all the Perfections of the common white Lilly, ſtately Growth, Abundance of Bloom, and moſt conſummate Fragrance; and with the Advantages of a Variegation in Point of colouring; much in Character with the natural Flower; very delicate and very beautiful.

It is a Seedling Variety of the white *Lilly*; nothing more.

Late Authors have been taught to call it after Marchant, *Lilium album flore lineis purpureis variegato:* the white Lilly with the Flower variegated with purple Lines: Linnæus, who diſregards ſuch Variations in his Account of Species, refers it to the original Plant, the common white Lilly, which he diſtinguiſhes from the other of the Lilly Kind by the Addition of *Foliis ſparſis, corollis campanulatis intus glabris:* Lilly with ſcattered Leaves, with Bell-ſhap'd Flowers ſmooth within. The ſcattered Diſpoſition of their Leaves, and Bell-ſhape of the Flowers, diſtinguiſh it from the *Martagons*, and the Smoothneſs of the inner Surface of the Petals, from the red Kinds which have protuberant Marks.

The Root is bulbous, and compoſed of a Multitude of Nuclei or thick Scales.

The firſt Leaves are long, moderately broad, waved at the Edges, obtuſe, and of a freſh green; tinged along the Edge with a duſky brown: this is not the conſtant, but in the fineſt State of the Plant it is very conſpicuous, and adds no little Beauty; at leaſt Singularity.

The Stalk is round, thick, upright, and two Foot and a half high; the Colour a pale green, tinged variouſly with brown or purpliſh.

The Leaves ſtand thick upon this, and with perfect Irregularity: they are oblong, waved, and tinged more or leſs with brown.

The Flowers terminate and crown the Stalk in an elegant Tuft, ſix or eight of them together; they are large, and moſt extremely fragrant; white, and ſtreaked along every Petal with a Rib of the moſt delicate crimſon.

The Form of the Flower is perfectly the ſame with that of the common white Lilly.

There is no Cup, the Petals are ſix; long, large, and thick at the Point. They riſe together from a narrow Baſe, and ſwell out into Breadth till the whole Flower reſembles a broad-mouth'd Bell. They have a hollow on their Back, and their thick Ends are obtuſe: at the Baſe of every Petal there is a longitudinal Line, which is the Nectarium.

The Filaments are ſix; they are ſmalleſt toward the Top, and they are crowned with oblong, large, incumbent Buttons.

The Rudiment of the Fruit is oblong, and has ſix Ridges; from this riſes a ſingle Style of a cylindrick Figure, crowned with a triangular obtuſe Head. The Claſs and Place of this Plant in the *Linnæan* Syſtem are extremely plain; the ſix Filaments refer it to the *Hexandria*, and the ſingle Style ſhews it one of the *Monogynia*.

Culture of this Lilly.

The Plant is Native of the Eaſt, and thrives in rich Soil where there is open Air and ſome Moiſture. This elegant Variety of it has been the Reſult of Accident among frequent ſowings. We have on various Occaſions told the Gardener, that he who will ſow ofteneſt and moſt largely, will not fail of many new Flowers in the bulbous Kinds. This may be produced thus by the modern Gardener as it was originally, but that is precarious, and cannot be expected but as the Reſult of many Trials.

The Flower in this ſtriped State ripens its Seed freely, and affords Off-ſets as plentifully as in the ſimple State, and it may be encreaſed and propagated from them. The Method by Off-ſets is very eaſy.

When the Leaves are decayed after the Seaſon of flowering, the Roots muſt be taken up, and at that Time, in the perfect Manner of Culture, we recommend there ſhould be two Beds dug up, one in the Garden, the other in the Nurſery; that in the Garden is for the Reception of the old Roots again, and it may either be in the ſame Spot with Change of Mould, or in another: That in the Nurſery is for receiving the Off-ſets, and nouriſhing them till they are of a Size to flower ſtrongly.

The Off-ſets, being all taken off, muſt be planted at eight Inches Diſtance in the Nurſery Bed, and covered an Inch with the Mould; the old Roots ſhould be allowed fifteen Inches Diſtance every Way.

Some take up the Roots only once in three Years; but the right Practice is to do it every Year: this not only affords more Off-ſets for Pro-

1
Beureria
2
Thuringian Lavatera
3
The Strip'd Lilly
4
Yellow Pyreneean Aconite
5
Lanceolate Broom
6
Scarlet Monarda

pagation, but the old Roots flower much more ſtrongly for being cleared of them.

They are to be planted again as ſoon as cleared from theſe, for the ſcaly Bulbs do not bear like the tunicated or ſolid to be kept out of the Ground. There needs no Compoſt to be made for them, for they ſucceed very well in Garden Mould.

When the Off-ſets have ſtood in the Nurſery Bed till they flower ſtrongly, they are to be brought into the Garden, and treated juſt as the others.

This is the Method of encreaſing the ſtrip'd *Lilly* by Off-ſets, and thus it will retain its Nature; but the Elegance of colouring and farther Variation, is only to be continued as the Flower firſt was raiſed, by a careful ſowing of the Seeds.

To this Purpoſe let a good Plant be marked for Seed, and encouraged to ripen them perfectly by ſuffering only the three firſt Flowers which opened to remain, and by frequent watering and breaking of the Soil.

Let the Stalk be tied up to a firm Stake, to prevent the Accidents from Winds; and when the Seed-veſſels are tolerably hardened upon the Plant, let them be taken off, and laid for a Fortnight upon a paper'd Shelf, turning them every Day.

Then open them, take out the Seeds, ſpread them upon the Shelf, and air them ten Days; at the End of this Time they will be fit for ſowing.

Dig out a Piece of Ground in a Part of the Nurſery which is well ſheltered, but open to the Morning Sun. Fill up the Place with freſh Mould taken from under the Turf in a rich Paſture, and ſcatter on the Seeds. Sift over them a Finger's Breadth of the ſame Paſture Mould, and lay a Thorn Buſh upon the Bed to keep off Accidents.

Let all Weeds be pick'd off as they appear; and when the Plants come up let them be thinned, if they riſe in any Part too cloſe; and from this Time carefully watered. If they are expoſed to the Noon Sun let the Bed be ſhaded by a Reed Hedge.

In the Beginning of *Auguſt* let a large Bed of the ſame Earth be prepared, and let the Mould be taken off the Surface of the Seed Bed ſo deep as to take up all the Roots. Let this Earth with the Roots in it, (for they are too ſmall to plant ſeparate) be ſpread carefully over the Surface of the new Bed, and ſift over it half an Inch of more Mould.

In ſevere Weather cover it with a Coat of Pea-ſtraw, and in Spring ſtir the Surface very lightly and gently, ſo as not to diſturb the Roots; and ſift on a Quarter of an Inch more of the Mould: the Leaves will ſoon appear, and the Bed muſt be carefully weeded and well watered in dry Seaſons; a little at a Time, but often repeated.

In the *September* following make up a larger Bed, and ſeparate the Roots by ſifting the Mould of the firſt Bed. Plant them in this new Bed four Inches diſtant, ſee the Heads are placed upwards, and ſift over them more Mould till they are covered half an Inch.

The ſecond Year after this Removal they will flower, and there will be found an elegant Variety; as a great Quantity of the Seed of the common white *Lilly* would have a Chance to raiſe ſome ſtrip'd Flowers, ſo there probably will be from the Seed of the ſtrip'd ſome white ones, but the ſtrip'd ones will be very numerous, and there will be among them a great deal of Variation. The Stripes will be broader and ſtronger in ſome, paler and ſlighter in others; and they will, in ſome Flowers, ramble over the whole Petals with a very rich and pleaſing Variegation.

Theſe Roots are to be managed as we have before directed, treating of raiſing the Plant from Off-ſets: they muſt be taken up every Year, the Off-ſets muſt be carefully removed, and planted at four Inches Diſtance in a Nurſery Bed to gather Strength; the grown Root thus cleared, muſt be planted again as at firſt, only in freſh Mould.

4. YELLOW PYRENÆAN ACONITE.

Pl. 51. Fig. 4.

This very ſingular and elegant Plant is yet leſs common than it ſhould be in our Gardens; 'tis hardy, of eaſy Culture, and never can fail to be a Source of Variety.

It is Native of ſo many Parts of the World, that one wonders to ſee ſo few of the botanical Writers deſcribe it. This cannot have ariſen from their not having ſeen the Plant, but to their overlooking its diſtinctive Characters; they have doubtleſs confounded it with the common yellow *Aconite*, ſuppoſing that extreme Diverſity of the Leaves accidental, which later and more accurate Searchers have found to be ſpecifick.

Ray, in his Catalogue of the *European* Plants, extraneous to *Britain*, names it, and very juſtly marks the Diſtinction. He calls it *Aconitum Pyrenaicum luteum foliorum ſegmentis ſibi invicem incumbentibus.* Linnæus, *Aconitum foliis multipartitis, laciniis linearibus incumbentibus ſquarroſis:* Aconite with divided Leaves and linear Segments, looſe and lying over one another.

The Root is compoſed of a Multitude of long twiſted, blackiſh Fibres, connected to a ſmall thick Head.

The Stalk is a Yard high, pale, upright, and not branched: ſeveral Shoots riſe from the Boſoms of the upper Leaves, but they are ſmall and erect; the main Stalk runs up ſingle and undivided.

The Leaves are of a pale but not unpleaſing green; and in rich Soils often conſiderably deeper. They have long Footſtalks alſo of a faint green, and they hang from them in a palmated Form, but with wild and ſtrange Irregularity.

Each Leaf is divided to the Rib into five Segments; theſe are long, narrow, rarely of equal

Breadth, and cut into deep Segments, or at the leaſt deeply notched at the Edges, and ſharp pointed.

The lower Leaves ſometimes have theſe Segments expanded flat and regularly; ſo we have repreſented them in the lower Leaf of the annexed Figure to ſhew the real Form; but the general Diſpoſition is much otherwiſe. The Form of the Leaf is the ſame, but nothing is ſo wild as the Arrangement of their Segments; they fall againſt and over one another, and they expand and twiſt themſelves in various odd Directions.

The Flowers are extremely elegant; they are numerous, and they terminate the main Stalk, and all the Branches in a Kind of ſhort Spikes. Each has its Footſtalk, and their Colour is a very ſingular pale, and as it were whitiſh yellow. Their Form is properly that of the *Aconite* Flower, extravagant, but too common to have the due Admiration.

There is no Cup. The Body of the Flower is compoſed of five Petals, one of which is placed above, two below, and two ſideways. The upper Petal is tubulate and galeated, inverted or placed with the Back upwards, and is obtuſe, the Head bent back to the Baſe, and pointed: to this Head, the Baſe, where the Connection is, ſtands oppoſite. This is the ſtrange Form of the upper Petal, not eaſily intelligible by Words alone, but familiar by Compariſon of the Flower; the two ſide Petals are broad, rounded, placed oppoſite and convergent; the two loweſt are oblong and narrower, and they hang downward.

There are two Nectaria very ſingularly diſpoſed; hid as it were under the upper Petal. They are hollow, and have an oblique Mouth, and they ſtand nodding; and have a crooked Tail: theſe ſingular Parts are placed on long Footſtalks, ſlenderer toward the Top.

The Filaments are numerous and ſhort, they are ſlender, and they turn toward the upper Petal: they are broad at the Baſe, and they have ſmall upright Buttons. In the midſt of theſe ſtand five Styles of the Length of the Filaments, riſing from ſo many Rudiments of Seedveſſels, and terminated by ſimple reflex Heads.

The Fruit is compoſed of ſo many Seedveſſels, and each contains ſeveral rough angulated Seeds.

The numerous Filaments are inſerted on the Receptacle, and this ſhews the Plant one of the *Polyandria.* The Styles being five, as plainly refer it to the *Pentagynia.*

It is needful to obſerve, that in the *Linnæan* Genera, the Place of this Plant is among the *Polyandria trigynia*: that Author was induced, by the Neceſſity of his Method, to miſplace the Plant. It has not been done by Overſight, but knowingly; for he has named its five Rudiments and five Styles: the reſt of the *Aconites* have only three; and thoſe he was obliged to place among the *Trigynia* by that abſolute Character.

This and the common yellow *Aconite* have five Styles, and ſo many Rudiments of Fruit; but they are perfect *Aconites*, for they agree in all other Characters with the reſt of that Genus.

To have ſeparated theſe two by an intermediate Order from the reſt of the *Aconites*, would have been moſt unjuſtifiable; for it is againſt all Rule to divide a Genus, and diſplace ſome of its Species.

Linnæus ſaw this, and he ſubmitted to the Neceſſity of joining theſe to the other *Aconites*; allowing them of the ſame Genus, tho' of a different Order or ſuperior Diviſion. It is one of the Inſtances of Imperfection in his Method, and juſtifies what I have had Occaſion to obſerve in another Work, and what the World will one Time own univerſally of the Imperfection, to uſe no harder Term, of the claſſical Diſtribution by minute Parts. Let our Student underſtand the Merits of Linnæus properly. His Characters of Genera are accurate and moſt ſcientifick; and his Names of Species happily diſtinctive. In theſe, which are the two great Articles of botanical Improvement, he has exceeded all Men, and has more advanced the Science than the whole Catalogue of Names, great as they are, who went before him. This is his Merit, but the claſſical Diſtribution does too much Violence to Nature.

Culture of this ACONITE.

It is a Native of the northern Parts of *Europe*; and many other cool Parts of the World. The Soil which beſt ſuits it is a moiſt rich Mould, and it ſucceeds beſt in Expoſure; the Shade of Trees does not deſtroy the Plant, but it never flowers ſo well under it, nor is ſo healthy.

The common and eaſy Way of propagating it is by parting the Roots in Autumn; but 'tis very eaſy to raiſe it from Seed, and in that State it always ſucceeds better.

Let ſome good Seed be procured from a Plant in an open rich Soil, which has not been ſuffered to produce too large a Quantity. No Sideſhoots ſhould in theſe Seed Plants be ſuffered to flower, and the Top of the Spike ſhould be nip'd off to prevent the upper Flowers. Thus the Seed-veſſels of ſix or eight of the lower ones will fill with perfect Seeds.

Let theſe be dried in the uſual Manner, and kept during Winter.

In the Beginning of *March* let a Bed be dug in an expoſed Part of the Nurſery, and theſe Seeds ſcatter'd on. Let a Finger's Breadth of Mould be ſifted over them.

When the Plants appear, thin them to five Inches Diſtance, leaving only the ſtrongeſt; and in *May* tranſplant theſe into another Border in the Nurſery at eight Inches aſunder. In *September* take them up with good Balls of Earth, and remove them into the Garden. They will flower in full Perfection the following Seaſon.

Seeds ſhould be ſaved from the fineſt Plants with the Care above directed, and ſown every Year: the Trouble is little, and the Advantage will be the keeping the Plant in its full Perfection, and perhaps improving it every Seaſon.

5. LANCEOLATE BROOM.

This is a very elegant Shrub, hardy, of eaſy Culture, and for many Months full of Flowers. It has been known long to the Writers on Botany, who have diſtinguiſhed it by various Names, but all referring it to the Broom Kind.

Camerarius calls it, *Chamægeniſta ſagittalis Pannonica.* C. Bauhine only *Chamægeniſta ſagittalis:* the *Arrow Broom*, or *Dutch Arrow Broom*, ſo called from the Leaves reſembling an Arrow Head. J. Bauhine calls it *Geniſtella* and *Chamæ Spartium*, and the common Writers, *Geniſtella Montana.*

Linnæus, who firſt well underſtood the Diſtinctions in theſe Genera, and referred them to their proper Places, ranks this among the *Geniſtæ*, adding as the Diſtinction of the Species, *ramis amipitibus articulatis foliis ovato lanceolatis:* Broom with edged and jointed Stalks, and oval lanceolate Leaves.

The Root ſpreads far under the Surface.

The Stem is firm, divided into many Branches, and the whole Plant about two Foot and a half high.

The young Shoots are edged and jointed, of a pale green, and lightly hairy; the Leaves ſtand ſingly, and they are oblong, and undivided at the Edges; of a freſh green, but covered with a light Hoaryneſs.

The Flowers are moderately large, and very numerous: they ſtand in looſe Spikes all along the Tops of the Stalks and Branches, and follow one another in a long Succeſſion. They are of the papilionaceous Form, and of a fine yellow, and each is followed by a ſmall hairy Pod.

'Tis fit the Student examine them with Attention, that he may underſtand the Reaſons of Linnæus's Diſtribution.

The Cup is ſmall, hollow, formed of one Piece, and lightly divided into two Lips: of theſe the upper has two Points, with a deep Diviſion; the under Lip is cut into three nearly equal Segments.

The Flower conſiſts as other papilionaceous Kinds, of a Vexillum, two Alæ, and the Carina.

The Vexillum is of an oval acute Form, and diſtinct from the Carina, and bends back entire; the Alæ are oblong, but ſhorter than the Carina; the Carina is nip'd at the End: it runs out ſtrait, and is longer than the Vexillum.

This is the perfect Structure of the full open'd Flower.

In this are placed ten Filaments, which grow together, and are crowned with ſimple Buttons.

The Style is ſimple, and turns upward; the Rudiment from which it runs is oblong, and the Head is acute. The Seed-veſſel is a ſhort Pod, and the Seed Kidney-ſhaped.

Linnæus places this Genus among the *Diadelphia*, although the Filaments unite but into one Body; their Number, which is ten, refers it plainly to the *Decandria.*

It is thus Nature will ſometimes, indeed too often, break in upon the Claſſes of this Author. 'Tis certain that the Geniſta ſhould not be ſeparated from the other papilionaceous Kinds; but it is alſo evident, the Character eſtabliſhed on the Arrangement of the Filaments into two Aſſortments, will not properly unite them.

Culture of this Genista.

It is a very hardy Shrub, and eaſily raiſed from Seed.

A ſmall Bed muſt be dug up in the Nurſery, and the Seeds ſaved from a ſtrong Plant ſown on it the firſt Week in *April.*

When the Plants appear they ſhould be thin'd to ſix Inches Diſtance, and weeded and watered throughout the Summer.

The ſucceeding Spring a freſh Bed muſt be prepared for them; and they muſt be taken up with Care, and planted at two Foot Diſtance. Here they ſhould remain till the ſucceeding Spring, and they will then be fit to remove into their Places. This gives them Strength, and affords the Gardener an Opportunity to form them, and after this they will require no Care but what is allowed all other Plants, weeding and watering, and will flower profuſely.

6. SCARLET MONARDA.

Pl. 51. Fig. 6. The modern Gardener is very well acquainted with this Plant, whoſe Fragrance and Colour demand a Place for it in every Collection, and have made it nearly univerſal. The old Authors could not know the Plant, for it is an *American*; but thoſe who have written ſince have celebrated it.

Butner calls it, *Monarda floribus capitatis verticillatiſque, caule acute angulato foliis lanecolato ſerratis glabris:* Monarda with headed and verticillate Flowers, with a ſharp angled Stalk, and lanceolate ſerrated Leaves.

Linnæus in his former Works called it, *Monarda caule acute angulato capitulis terminalibus:* but in his lateſt, *Monarda floribus capitatis ſubdidynamis caule acut-angulo:* acute angular ſtalked Monarda, with headed Flowers approaching to the *Didynamious* Kind.

The Root is compoſed of numerous Fibres connected to an oblong Head.

The Stalk is ſquare, thick, firm, upright, and two Foot high: the Angles are ſharp, and the Colour is a pale green; often tinged with brown or red.

The Leaves are placed in Pairs, and have ſhort Footſtalks: they are broad, ſharp pointed, deeply ſerrated at the Edges, and of a deep ſtrong green; uneven on the Surface, and marked with large Ribs.

The Flowers naturally terminate the Stalk in a large and fine ſcarlet Head; but often in good Ground there will riſe another Head, ſupported on a ſlight Stalk, which takes its Origin from the Centre of the firſt, and is a kind of Continuation of the main Stem.

On the Summit of this is ſupported the ſecondary Head, leſs and ſlighter than the firſt; and to this accidental Change in the Form is owing the Confuſion among thoſe who have deſcribed it, and who did not know whether to call the Flowers capitated or verticillate: the firſt Head acquires the verticillate Form on the Appearance of the other.

The Flowers are very numerous, ſingular, and elegant: they are long, tubulated, gaping, and in Colour of a moſt elegant ſcarlet; a little paler or a little deeper, according to the Degree of Culture, but always beautiful.

The Cup is formed of one Piece, tubular, ſtriated, and cut into five equal Segments at the Edge.

One Petal forms the Flower, it riſes from the Cup with a long Tube, and is at the Extremity ſplit as it were into two Lips. The upper Lip is long, narrow, and undivided, and all the Way of equal Breadth. The lower Lip is broader, it turns down, and is cut into three Segments, of which the two Side ones are ſmall and obtuſe, and the middle one longer, narrower, and nip'd at the End.

The Filaments are two, they are long, ſlender, and crowned with compreſſed Buttons, which terminate abruptly on the upper Part, and are convex on the lower, and placed erect.

There are beſide theſe two other imperfect Filaments ſhorter, and without Buttons, or with imperfect ones, this has given occaſion to the Term *Subdidynamious* in the LINNÆAN Name.

The Style is ſingle, and has a ſplit Head: it riſes from a ſquare Rudiment, which ripens into four Seeds, and they remain naked in the Cup.

The two Filaments place this Plant among the *Diandria* of LINNÆUS, and the ſingle Style among the *Monogynia*. So himſelf has placed this Genus, but the two ſhorter and leſs perfect Filaments ſeem to refer this Species to the *Didynamia*. Indeed the Plants of theſe two Claſſes, tho' ſo far ſeparated in the Syſtem, are nearly allied in Nature.

Culture of this MONARDA.

The Seeds ripen freely with us, and they will grow as readily: this is therefore the proper Method of propagating the Plant. Let them be ſaved from a flouriſhing Plant, and in the Beginning of *September* ſown upon a Bed of freſh Earth in the Seminary.

The Plant is a Native of the colder Parts of *America*, and will require no great Attention to raiſe it. The young Plants muſt be thinned, and weeded, and watered in Spring, and toward the End of *May* they may be taken up with a Ball of Earth, and planted where they are to remain.

They will require frequent Waterings, and they ſhould have a Foot and half Diſtance from one another, or from other Plants, and they will thus flower in full Perfection.

There will not be any great Difference in the Colour of the Flowers; they will be a little paler, or a little ſtronger; but in whatever degree they have the Colour, it is in itſelf ſo elegant, that they never can want Beauty.

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SECT. II.

Of the laying out a PLEASURE GARDEN.

THE Gardener remembers how far we have in the preceding Numbers advanced in the Diſpoſition and Arrangement of a Garden. The Out-ſkirts of the ſelected Piece of Ground have been formed, according to their various Qualities and Condition, into the ſeveral neceſſary Appendages: the Orchard, Seminary, and Kitchen Ground have been marked out; and there remains the principal Part to be formed into a Pleaſure Garden.

This is the moſt delicate Point, and the leaſt underſtood of all: a falſe Taſte which had long reigned is now baniſhed, and Nature prevails under the Conduct of good Senſe.

We ſee, however, but few good Gardens; and thoſe we admire moſt are yet imperfect. Their Deſigners have concealed the Art which they have weakly exerted: what we propoſe is to explain the Principles, and proceed upon them toward a greater Perfection.

Our Deſigner has before him a choſen Spot of Ground; open to the Morning Sun, riſing by a ſlight Aſcent, planted at Diſtances, or in order for ſuch a Plantation, and ſituated in the Midſt of an agreeable and well diverſify'd Country: this he is to diſpoſe ſo as to be moſt agreeable to itſelf, moſt varied that can be in its ſeveral Parts, and ſo that it may have the beſt Command of the adjacent Country.

He is to give a Harmony and Agreement of the ſeveral Parts within, and to diverſify the Proſpects by a due Choice of the innumerable Objects which offer from without; and as he is at length freed from the confined Taſte of former Time, he is to indulge that Liberty with Moderation. What is to be attempted in general, is to give the Spot a ſmiling and a natural Aſpect: to conſider firſt what is moſt beautiful in Nature, and then to embelliſh and improve it without deſtroying that Character.

CHAP. II.

Of VIEWS.

IF we look out into the Fields, we admire near about us the free Growth of the Hedge, and the freſh Verdure of the Paſture. Theſe let us imitate by giving the Trees their natural Wildneſs, and by providing a Soil where every Thing will flouriſh: what charms us at a Diſtance in this wild View is the Inequality of the Ground, and its various Cloathing.

In one Part a Hill preſents us on its Side a hanging Wood; in another, a River purſuing its winding Courſe; now loſt, now ſeen again: in a third, an Extent of many Acres covered with one Sheet of Corn, fills the Mind with an Idea of Fertility and Plenty; while, on the other Side, the Eye traverſes a greater Extent encloſed, divided, cultivated, and improved to ſuch a Height, that it appears a Garden.

Theſe are the agreeable Objects, and it is neceſſary to conſider theſe firſt in the Account, becauſe the fineſt Views ſhould be left open; and the Plantations, Walks, and Pavilions, placed and diſpoſed accordingly.

Beſide theſe, there are in Nature Objects of Diſguſt, and Horror, which yet may be introduced happily; burnt Hills, and blaſted Heaths, and barren Rocks, and the wild Waſte of Commons, afford a Contraſt with theſe pleaſing Objects; and where Nature has placed them within Reach, the Deſigner ſhould never fail to open his Views to them. Every Thing that is great, independent of all other Conſiderations.

Theſe Objects therefore will be ſure to pleaſe, but they muſt be introduced with a ſparing Hand, and with Judgment intermixed among the others: they are the Diſcords in the Muſick of Gardening; and as the Shades in Painting, they give Harmony, Relief, and new Grace to the others.

The *Chineſe*, whom it would be well we continued to imitate in this Matter, if we can imitate with Moderation, indulge the romantick Genius of their Nation to a degree of Caprice that becomes ridiculous often, and ſometimes abſurd in this Diverſity.

Let us learn from them, that the ſudden Tranſition from agreeable to horrid; and from gay to gloomy, is pleaſing; but let us correct the untutored Wildneſs of their Imaginations, by forming nothing beyond the Laws of Nature.

Theſe form the great Views; and to theſe ſhould be added all thoſe accidental Objects which may be made Points of Proſpects; old Buildings, ſingle Trees, a Windmill, or a Barn, will ſometimes ſerve this Purpoſe happily.

Thus let the Deſigner view what there is in Nature out of the Compaſs of his Ground, and conſider in what Manner he may uſe it to Advantage. Let him not ſuppoſe he ſhould, or that he can bring in every Thing that is charming, or every Thing that is proper.

What has been ſaid of Poets, is as true of Deſigners in the preſent Inſtance: they loſe half their Praiſe, by the Eye not ſeeing what they reject, and why.

Let it be conſidered which of theſe ſeveral Objects muſt be brought in, and in what order: the Eye muſt travel over them with ſuch Diverſity, that every Thing muſt be new, and each Part ſet off the other.

Let him not grudge therefore to ſhut out an agreeable View in one Place, but conſider how to bring it in at another, where it may have this Charm of Novelty.

CHAP. III.

Of the Diſpoſition of WALKS.

THIS is the Rule on which the Gardener is to mark the firſt Deſign of Walks and Hedges, open Spots and Plantations. He muſt ſhut out by the Plantations every diſagreeable Object, except ſuch as are adopted for Contraſt; and he muſt often debar the Eye the Pleaſure of a ſmiling Proſpect, becauſe it has too much Reſemblance to thoſe on either Side of it. Having marked his Openings, and his Spots for Plantation upon this Principle, let him again go the Round, condemning or confirming his firſt Judgment.

The great Point is thus eſtabliſhed; and his next Care is the Diſpoſition of the Space agreeably to theſe firſt Principles: there are a Thouſand Ways in which the ſame Piece of Ground may be laid out with theſe deſtined Openings and Plantations.

Our Anceſtors choſe the moſt methodical and regular; all was done by Rule and Line, and this gave their Works that Formality our better Taſte deteſts.

Let us again refer for the Rule of our Conduct to Nature, ſhe is never ſo charming as where wildeſt. There is an eaſy Freedom, and a pleaſing Negligence in her Diſpoſition which charms, becauſe it is not regular. There is a Stiffneſs in this Work by Rule, which is always diſpleaſing to a delicate Eye; a Garden is to be a fine Field, and we muſt not permit too much Symmetry, where we have obſerved that Freedom is the greateſt Grace.

If any ſuppoſe by this that an artleſs Diſtribution of the Ground is what we direct, or what they admire in thoſe Gardens which ſtand recommended by this true Taſte, they err extreamly. It is an Air of Irregularity we adviſe, not Irregularity itſelf; there requires more Art by far in this Diſtribution, than in any other; and there requires afterwards the great additional Labour of concealing it.

The *Chineſe*, whom we admire, have fallen too much into this abſolute Wildneſs; and this ſhould be the Difference between their Originals, and our Copies. Every Thing we ſee ſhould be choſen for its Place, though it ſeem the Reſult of Accident; there ſhould be Order in every Place, though under the Aſpect of wild Freedom, and a certain Harmony where there is the Aſpect of Confuſion.

When the Places for Thickets, Clumps, and Groves, are by the firſt Rule choſen, where there is ſomething to be hid; and, according to the preſent Direction, marked out with an Air of native Wildneſs, the Walks are to be ſo diſpoſed, that they add to the Proſpects, that they differ from one another, and yet that there be an univerſal Proportion. Their Length is determined by the Quantity of the Ground, but their Breadth is at the Pleaſure of the Deſigner, and in this let him exceed the uſual Proportion.

Every Thing that has a confined Air reliſhes of Littleneſs, and theſe are the two worſt Ideas we can conceive in a Garden; to be ſhut up in a Garden is to return to the four Walls of our Anceſtors.

The Purpoſe of the Thing is ſubverted by this: to breathe the free Air, to walk at Eaſe, and to be entertained with preſent Beauties, and remote Proſpects; theſe are the Purpoſes of a Garden, and theſe depend in a great meaſure upon the Breadth of the Walks. Their Form may be various, the ſtrait and ſerpentine are both in their Way agreeable, but it is an eſſential Point in both to have Extent.

The Trees which terminate their Sides, muſt no more crowd upon the Walk than upon one another: the free Growth and the Beauty of the Place depend equally upon Diſtance. A narrow Walk terminated by two clipped Hedges was once a Favourite Taſte, but it is juſtly now excluded: a Wall is as good a Boundary, and ſuch a Walk is but a Street out of Town.

Shade muſt be had in Gardens, and this the Trees left to Nature afford freely; nor is it neceſſary where the Walks are thus planted, to run into damp Groves; or weary the Steps in narrow Serpentines, to eſcape the Sun.

The Freſhneſs of the Verdure is another Article of vaſt Importance in Gardens; and this, as well as the reſt, will depend in a great meaſure upon that Space of Walks and Openneſs we adviſe in all Parts: without free Air nothing can thrive, not even the low Graſs of the Walks. A few broad Walks are preferable to a great Number of narrow ones: in a Thing intended to be great, all the Parts ſhould be great; and if the Points and Objects be all brought into View, and there be that Diverſity of Form in Walks which we have mentioned, their Number ought never to come into Conſideration.

CHAP. IV.

Of TERRACES.

AFTER the Conſideration of Walks, comes properly that of Terraces; for though intended for the ſame Purpoſe, they do not come under that Denomination: their Character is their Height; and their ſingular Advantage is in raiſing the Eye above the ordinary Level, and opening to it a new Scene.

Throughout a Garden deſigned with this Taſte, the Air will be clear and pure; but on this elevated Walk it will be finer than any where, becauſe it is more open: there will from every Part of the Ground be Proſpects that are agreeable; but here the View is of a whole Country.

The firſt Choice is, that they be made in a Place where the View is extenſive, and pleaſeing. We have ſeen the Taſte for Terraces carried ſo far, that they have been made all round a Garden: in this caſe they are as abſolute Walls, as if they had been built of Brick, and they confine and choak every Thing within.

There is ſeldom Opportunity for more than

Sept.

one Terrace in a Garden, nor does there often want the Means of that. It ſhould be large like all the other Parts, and it muſt have Shade, for otherwiſe its Height makes it more than any other Part of the Garden expoſed to the Sun.

Sept.

The great Art is in chuſing ſuch a Place as affords the kind of Views we have deſcribed, and where it does not obſtruct the Eye from other Parts of the Garden.

CHAP. V.

Of GROVES.

NOthing can be more eſſential to a Garden than this kind of Plantation; but there is nothing in which the common Practice more departs from Truth. Two Purpoſes ſhould always be intended in theſe Plantations; an agreeable Object from without, and a Retreat from the Sun within. The firſt will depend upon the Choice of the Trees, and the other on their Diſpoſition.

The Grove muſt have a Walk for the eaſy Enjoyment of the Shade; and Cuſtom has made this Serpentine. That Form is indeed the beſt; but as there will be more Groves than one in a large Garden, it ſhould not be invariable. Whatever be the Shape, the great Requiſite is Extent.

The great Error is planting the Grove, in general, too cloſe, and making the Walk too narrow: from this there is an unwholeſome Air; and the Trees do not thrive well.

A third Part of the Trees uſually allowed will be fully ſufficient for this Purpoſe: their Branches will ſpread the farther, the more diſtant they are at the Root; and a very broad Walk will have ſufficient Shade.

In this Caſe the Bottom may be always clean and hard; there will be free Air and ſufficient Shelter. Flowering Shrubs ſhould be planted to edge the Walk; and in this kind of Conſtruction, they will thrive in a very different manner, from what is ſeen when they are choaked and over-ſhadowed univerſally: and it will give a great Air of Nature, if here and there along the Walk, an old Tree thruſts its Trunk beyond the formal Line of the Verge; or ſtands even in the Middle, in a well choſen Place. The great Art is to give theſe Parts an Appearance of Nature, and nothing anſwers this Purpoſe like a well choſen Irregularity.

This internal Diſpoſition underſtood, the next Point is the Choice of the Trees; conſidering the Grove as an Object from without. In this Senſe it is a great Clump: and it is always the better for its Bigneſs.

Nature affords an endleſs Variety of Greens in the Leaves of Trees; and the ſame Tree at different Seaſons of the Year puts on different Colours. The firſt opening is pale, the full Leaf has a more confirmed green, and the Period of Decay is yellow, or in ſome ſcarlet.

The Gardener muſt know all the Trees fit for ſuch a Plantation, that he may be able to chuſe the fitteſt; and he ſhould be ſo far a Painter, that underſtanding what are the Colours, he may know alſo how to throw them together, ſo as to ſet off one another in their Perfection, and afford Variety in the Decay.

Good Painters in Landſcape call Autumn the moſt agreeable Seaſon, becauſe of this Diverſity of Colour in the decaying Leaves: it is one of thoſe Beauties in Nature we can eaſily improve, by chuſing for this Plantation ſuch as have the fineſt Tincts, and the greateſt Diverſity of them.

The Out-line of the Grove ſhould alſo be irregular, to imitate Nature, who never made a Wood ſquare or oval; nor is the chuſing of various Greens, and their Diſpoſition, limited to this Article, but has its Place in all the Plantation.

CHAP. VI.

Of the Diſpoſition of Flowers.

THE Flower Garden and the Pleaſure Garden, though uſually conſidered as the ſame, are properly diſtinct: we do not mean by this that Flowers ſhould not be planted in Pleaſure Gardens; but that there ſhould beſide this be a particular Piece of Ground for the Beds of the ſelect Kinds. The Shelter they require, and their whole Management, is ill ſuited to the Diſpoſition, Intent, and Air of ſuch a Piece of Ground as we here ſpeak of.

We ſhall now be underſtood with Regard to our Directions throughout this Work for the Culture of Flowers and curious Plants; we have directed them to be planted in diſtinct Beds, and in a Piece of Ground devoted ſolely for that Purpoſe, where Flowers are the only Object, and we ſeek nothing farther; this is the beſt Diſpoſition.

The Pleaſure Garden we deſcribe in this Place is of another Kind, Flowers will be a great Ornament to it, but they muſt not be conſidered as the principal Object; nor muſt the reſt of the Diſpoſition be ſubſervient to them.

The fineſt Kinds that bear the open Ground muſt be planted here with the ſame regard to Light and Shade, Harmony of Colours, and Variety, that we have recommended in the Choice of Greens for the Grove: and as the Variety is vaſtly greater in this Caſe, Fancy has more free Scope.

True Lovers Knots of Box are baniſhed, with clipped Yews, and Holly Pyramids; nor is the plain ſtrait Border the proper Form for the Flower Ground. No Edge becomes a Flower-piece like that of the Graſs Walk, and they never appear ſo well as when they follow Meanders, and riſe in little Clumps and Cluſters. This modern Taſte has found, and there is nothing in the Article of Gardening, which does it ſo much Honour.

CHAP. VII.

Of WATER.

BEſide the Neceſſity of Water for the Service of the Plantation, we have obſerved that it holds a high Rank in the Conſideration of Embelliſhment. We have ſaid, that if the Piece of Ground can be ſo choſen as to have a Brook or Rivulet at the Bottom, or a riſing Spring toward the Top, it will be a vaſt Recommendation; either of theſe will be a Source of great Satisfaction; but in the firſt Caſe Nature in a manner has done all, in the other it is left to Art.

All ſtanding Water is a Blemiſh rather than a Beauty in Gardens, but from the ſmalleſt Current ingenious Art can form Baſons and Falls, clear Streams and Cataracts at its Pleaſure. The Deſcent of the Ground will give the more Opportunity for theſe Improvements: running Water gives a Coolneſs to the Air, and its murmuring Sound has Charms in the Moments of Contemplation.

Art has been uſed to diſpoſe it in the moſt fantaſtick Forms, but a true Taſte will prefer the moſt ſimple running Brook to all the Fountains that were ever crowded into a Garden. What Art may be permitted to do with it, is no more than to imitate what is elſewhere ſeen in Nature. Whenever the Deſigner goes beyond this, he loſes Sight of the great Rule which is the copying of her Works: and he will fall into affected Puerilities.

This is the plain, ſimple, and natural Taſte to be indulged in deſigning Gardens: thus the moſt pleaſing have been formed; and there is no Way elſe to command ſenſible Applauſe.

E D E N:

A

COMPLEAT BODY of GARDENING.

NUMBER LII.

For the ſecond Week in *SEPTEMBER.*

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

I. DROOPING SHRUB XERANTHEMUM.

Sept.

Pl. 52. Fig. 1.

THIS very elegant Plant is little known among the Botaniſts, and has led the very beſt of them into Errors.

COMMELINE, who firſt in *Europe* raiſed it from Seeds brought from *Africa*, ranging it among the *Aſters*, called it *Aſter Africanus fruteſcens ſplendentibus parvis & reflexis foliis*; and ſo it has been named by others after him. LINNÆUS, in one Part of his *Species Plantarum*, p. 877. has joined it with the *Aſters*; but he had more juſtly, many Pages before, 859, refer'd it to the *Xeranthemum*, with the Addition, *Caulibus fruteſcentibus provolutis foliis ciliatis hirſutis:* ſhrubby Xeranthemum, with drooping Branches and hairy ciliated Leaves.

The Root is long, woody, and ſpreading.

The Stem is woody but ſlender, weak, and brown; ſcarce able to ſupport its own Weight, yet loaded with innumerable Branches: theſe droop, and often lie upon the Ground, and throw themſelves about in various elegant Manners.

The Leaves are innumerable; they cloath all the Stalks from Top to Bottom, and they are ſhort and ſmall, but elegant. They have no Footſtalks, they hang drooping, and are bent every where from the Branches.

Their Colour is a deep, elegant, and ſhining green, and they have an Edge of ſtiff Hairs all round them: this is what the botanical Writers call ciliated, from the Reſemblance of Eye-laſhes; there are alſo a few Hairs upon the other Parts of the Leaves, but leſs conſpicuous.

Sept.

The Flowers are extremely ſingular and beautiful; only one terminates every Branch, but theſe are ſo numerous, and thrown about in ſuch odd Directions, that the Quantity of Flowers is very conſiderable; and their Diſpoſition on the entire Plant ſingular and elegant.

Theſe numerous Flowers appear alſo of various Colours according to their Poſition and Degree of Maturity; the upper Scales of their Cups are the moſt conſpicuous Part; they are long, and flatted, and have the Aſpect of Rays of a Flower, theſe are purpliſh on the outſide, and white within: and this Purple is ſtrongeſt in them before the Flower opens: conſequently the Buds are of a deep purple. The half open'd Flowers on the outſide are of a paler Hue; and the full blown ones retain enough of the Tinge upon the Back of this Part of the Cup to be very elegant.

Theſe Flowers in their various States of Maturity ſhew themſelves variouſly and elegantly by the bending, drooping, and winding of the Branches; and more by their Motion from the leaſt Breath of Wind: there are purple, globular Heads, which are the firſt Buds of Bloom, and all the other Tinges as the Flowers ſhew more or leſs of the back Part of their Petals: this, with the glittering green of the Leaves, and the whole Diſpoſition of the Plant affords an Appearance ſcarce to be equalled.

Sept. The Inſide of thoſe extream Leaves of the Cup is white, and the Diſk or Body of the Flower is yellow.

The Student will find a great deal in its Conſtruction, worthy of his Attention.

It is of the compoſite Kind, formed of a Multitude of tubular Floſcules, and ſurrounded by theſe ſeeming Rays, which preſerve them.

The general Cup is rounded, large, and formed of many Series of Scales placed in the Manner of Tiles over one another.

The inner Series, reſembling Rays, are thinner than the reſt, and are of a gloſſy Surface: theſe have ſo much the Appearance of Petals, that they miſled COMMELINE, and for a Time impoſed upon LINNÆUS; and they are arranged in the ſame Manner as the Rays of the *Aſter*, and like Plants round the Diſk.

This is compoſed of two Kinds of Floſcules, the Body of it of tubular, and the Verge of a ſingle Series of others tubular alſo, but leſs regular. Thoſe in the Centre of the Diſk are of a Funnell-like Shape, and cut into five expanded Segments at the Rim. Thoſe on the Verge are tubular, leſs expanded at the Rim, and cut into five leſs equal Segments. Thoſe in the Body of the Diſk have five very ſhort Filaments with oblong tubular Buttons; and in the midſt of theſe, from a ſhort Rudiment of a Seed, riſes a fine ſlender Style, exceeding the Filaments in Length, and terminated by a ſplit Head.

Theſe Floſcules therefore are hermaphrodite, containing male and female Parts, and the others at the Verge are only female; they have no Filaments or Buttons, but a regular Rudiment of a Seed as the others, and a ſingle Style from it, with a divided and large Head, the two Parts of which turn back. After the Floſcules are faded, the Cup remains; defending the Seeds: theſe ripen equally after the hermaphrodite and female Flowers.

The Claſs of the Plant is found in the Coaleſcence of the five Buttons into a Cylinder; this is the known Character of the *Syngeneſia*, and as the hermaphrodite Flowers ripen their own Seeds, the Impregnation of thoſe in the Female is ſeemingly unneceſſary; the Order therefore to which it belongs, is that of the *Polygamia ſuperflua*. Sept.

Culture of this XERANTHEMUM.

It is a Native of the *Cape of Good Hope*, where it thrives beſt in thoſe Veins of Earth which fill the Cracks of Rocks: from whoſe abrupt Summits and irregular Sides it hangs eight, ten, or twelve Foot in Length; covering them with its moſt reſplendent Verdure, and diſplaying its Beauties in a Way we cannot ſee them here, as the Winds toſs about the long looſe Branches, fixed only by their remote Root. With us it may be preſerved in a Greenhouſe, but never thrives perfectly unleſs it be allowed the Benefit of a Stove.

The beſt Way of propagating it is by Seeds, but they do not ripen well in *England* unleſs with great good Management. If they can be obtained from the Cape, they are to be ſown in a Pot of fine Mould in Spring, and the Pot is to be ſet up to the Rim in a Bark-bed; after this they are to be treated with great Care, Waterings and Air muſt be occaſionally allowed, and the young Plants muſt be thinned till only four or five are left in the Pot: they muſt be tranſplanted at a due Size into ſeparate Pots, and thus brought into the Stove.

The familiar Way of raiſing it is by Cuttings; theſe are to be had wherever there is a Plant, and they will freely take Root. The middle of *June* is the beſt Time for this, and the Cuttings muſt be planted in Pots of freſh Mould, and ſet in a Hot-bed; or raiſed among other tender Kinds in the Manner we have before deſcribed, on a Kind of Hot-bed covered with Hoops and Canvas.

Which ever Way be choſen, the Management muſt be the ſame. The young Plants muſt be watered and ſhaded till they have taken good Root, and then they muſt by Degrees be hardened a little to the Air, and afterwards planted out into ſeparate Pots. Theſe muſt be ſhaded till the Plants are well rooted, and then removed into the Stove.

2. YELLOW AFRICAN SHRUB TREFOIL.

Pl. 52, Fig. 2. This is a very elegant Shrub, covered with Leaves on its innumerable Branches, and on the Head or general Surface formed by the Tops of the Branches, crowned with Tufts of golden Flowers.

The earlier Botaniſts were not acquainted with it: COMMELINE, who firſt raiſed it in the *Amſterdam* Garden, named it *Trifolium Africanum fruticans foliis incanis flore luteo*: African Shrub Trefoil, with hoary Leaves and yellow Flowers; and others have, in general, continued it unaltered.

The Root is woody, large, and ſpreading: the Shrub, with good Care, riſes to a Yard in Height, and ſends out every where a Multitude of wild Branches. The main Stem is hard, firm, and covered with a purple brown Bark, the Wood is whitiſh. The young Shoots are tender, of a pale, greyiſh green, and covered with a little Hoaryneſs.

The Leaves ſtand thick upon them all. They are properly and regularly diſpoſed in Threes, and ſo they ſtand upon the lower Parts of the principal Branches; but it is there alone one can diſtinguiſh that the Shrub is a Trefoil. From the Boſoms of theſe ternate Leaves riſe Cluſters of young ones without Order or Regularity; and in the ſame Manner all along the young Shoots and tender Branches the Leaves are placed wildly in Pairs alternate, or in the moſt looſe and ſcattered Manner.

They are oblong, narrow, undivided at the

Edges, ſharp-pointed, and fixed to the Branch without Foot-ſtalks. Their Colour is a greyiſh green, and they are duſted over in the ſame Manner as the young Branches, with a fine light-grey Powder.

The Flowers ſtand in Cluſters at the Extremities of the Branches, but often the upper Leaves riſe above them, which adds not a little to the Beauty of the Plant. They are large, thick ſet together, and of a fine gold yellow. The whole Shrub is covered with them, and when they are in the Bud, as well as when in full Flower, they are extremely pretty. The Buds before the Flowers begin to open, terminate the Stalks and Branches in round thick Heads of a ſilvery Whiteneſs: the weaker Branches often droop with them.

The Flowers when they burſt forth, afford a new and much more elegant Appearance; they are of the papilionaceous Form, and throw themſelves more freely and elegantly open than almoſt any of the Trefoil Kind.

The Cup is formed of a ſingle Piece, and is tubular, and at the Verge is cut into five Segments. The Body of the Flower has its three regular Parts, Vexillum, Alæ, and Carina.

The Vexillum is broad pointed at the End, and turned back; the Alæ are ſhort and turn up; and the Carina is ſhorter yet, and turns up with them.

Within the Flower are ten Filaments, nine of which unite at their Baſis into a Body, and the tenth is looſe: theſe are all crowned with ſimple Buttons. In their Centre appears a ſimple ſlender Style from an oval Rudiment of a Fruit, this turns up as the reſt, and is terminated by a roundiſh Head.

The two Aſſortments of the Filaments ſhew the Plant to be one of the *Diadelphia* of LINNÆUS, and their Number refers it to the *Decandria:* this being in that Claſs the Mark only of a ſubordinate Diſtinction, which is in others the great Character.

Culture of this TREFOIL.

The Plant is a Native of *Africa*, where it covers the wild, poor, and rocky Hills, as the common Furze with us; ſpreading as it were a golden Carpet over them, for the Extent of many Miles. With us it requires to be ſheltered from the Severity of Winter, but will very well bear to be ſet out in Summer in a warm and favourable Expoſure, and may be treated as the other Greenhonſe Plants.

The beſt Way of raiſing it is by Seed, but there is great Uncertainty of their ripening perfectly here, ſo that if they cannot be obtained from its native Country, 'tis better to truſt to Cuttings.

Theſe ſhould be taken in *July* from the moſt healthy Branches of a vigorous Shrub, and raiſed among thoſe of other Kinds upon the Bed we have directed to be made at that Seaſon for this Purpoſe, with Dung underneath, and with a Defence of Hoops and Canvas.

When by frequent Watering and Shade they have been brought to Root, they muſt be taken up and planted ſeparately in Pots, taking up a good Ball of Earth with them, and watering them carefully as well as ſhading till they have taken Root. After this they are to be ſet in the ſame Place with the other Greenhouſe Plants, and houſed with them in Autumn.

They will flower the ſecond Year; and all the Caution that need be given the Gardener is, that he leaves them to Nature in their Growth. The more Branches they throw out the better, and the Wildneſs of their Form ſhould be encouraged rather than retrenched, for it is their proper Beauty.

3. GOLDEN CUDWEED.

Pl. 52. Fig. 3. LINNÆUS has reduced this Plant to the humbler Claſs of *Cudweeds*, which thoſe who wrote leſs correctly called by the ſounding Name of *Elichryſum*. In this BOERHAAVE and COMMELINE had agreed, and they were Authorities Men could not bluſh to follow.

BOERHAAVE named it *Elichryſum Africanum folio oblongo tomentoſo, caulem amplectente, flore luteo:* yellow African Elichryſum, with an oblong, woolly Leaf, embracing the Stalk; and COMMELINE, *Elichryſium Africanum latrifolium fœtidum capitulo aureo.* LINNÆUS, having better fixed the Diſtinctions of Genera in the *Syngeneſious* Claſs, refers this to the *Gnaphalium*, and adds as the Diſtinction of the Species, *Foliis amplexicaulibus ſpatulatis ramis patentibus corymbis aggregatis:* Cudweed with ſpatulate Leaves ſurrounding the Stalk; and ſpreading Branches crowned with cluſter'd Heads.

The Root is long, and furniſhed with innumerable Fibres.

The Stalk is thick, round, firm, white, and woolly; and riſes to two Foot in Height, ſpreading every Way innumerable Branches, which ſtand wide, looſe, and ſcattered.

The Leaves are large, oblong, and of the ſame woolly Aſpect with the Stalk. They ſurround it at the Baſe, and they are broadeſt toward the middle, waved at the Edges, and obtuſe.

The Flowers crown the Extremities of all the Branches, and on the principal of them form large and handſome Heads. They are of a very delicate yellow, bright and ſhining, and have the additional Value of being very laſting. The common Cup is rounded, large, and compoſed of Scales of an oblong Shape, lying looſely over one another; and the upper one ſtanding more

Sept. more free than the reſt. The Flower is of the compoſite Kind, and is a Diſk, to which the upper Scales of the Cup ſerve as Rays.

The Floſcules compoſing this are numerous; their Form is tubular, and they are cut into five Segments at the Rim, which turn back.

The Filaments on each Floſcule are five; and they are ſhort and crowned with long coaleſcent Buttons, forming a hollow Cylinder.

In the Centre of theſe riſes a ſingle Style of the Length of the Filaments, crowned with a ſplit Head. This takes its Origin from the Head of a coronated Seed, and that afterwards ripens in due Time.

Among theſe appear certain ſingle Styles; they riſe naked from Rudiments of Seeds, without Petal or Filaments; theſe it is the Cuſtom of Botany to call Female Flowers.

The compoſite Kinds in general, have two Kinds of Flowers, Hermaphrodite and Female, but this is an uncommon Diſpoſition: it is cuſtomary for the Hermaphrodite Floſcules to occupy the whole Diſk without Mixture; and for the Female to ſurround the Edge in Rays.

The Claſs of the Plant is to be traced in the Hermaphrodite Floſcules. The Buttons in theſe coaleſcing into a cylindrick Form, ſpeak it one of the *Syngeneſia*. Theſe and the Female Flowers both ripen Seeds, wherefore the Plant belongs to that Order, which comprehends thoſe in which the various Impregnation is not neceſſary, the *Polygamia ſuperflua*. Sept.

Culture of this CUDWEED.

The Plant is a Native of *Africa*, and thrives there in light, deep, and mellow Soils, where there is ſome Moiſture. The Sides of Brooks which run under the Verge of Foreſts, is its moſt fragrant Situation. With us it requires the ſame light deep Mould, and will live through Winter in the well ſheltered Borders of the Garden.

Mix equal Parts of Pond Mud and Garden Mould, and dig this in two Spades Depth in ſome ſmall Spot which has a ſheltered Situation.

On this ſow ſome of the well ripened and well hardened Seeds. They muſt be ſown here, not in a Nurſery, becauſe the Succeſs of the Plant depends upon its not being removed.

When the young Plants appear they muſt be thinned to a Foot Diſtance, and from this Time weeded and watered.

April is the beſt Time of putting the Seeds into the Ground, and they will flower late the ſame Summer, but they will not come to their full Perfection till the ſucceeding Year.

After this there ſhould be a freſh ſowing every Seaſon, for the Plants are never ſo beautiful as the firſt Time they come into full Flower.

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4. NARROW LEAVED HEBENSTRETIA.

Pl. 52. Fig. 4. This is a very pretty *African* Plant, eaſily raiſed, and making a pleaſing Variety. The old Authors were not acquainted with it: thoſe who firſt raiſed it in *Europe* referred it to the *Valerian* Kinds; and COMMELINE to the *Valerianellas:* he calls it *Valerianella Africana fruticans foliis longis & anguſtiſſimis:* ſhrubby ſtalked African Valerianella, with long and very narrow Leaves.

The later Writers refer it to the new eſtabliſhed Genus *Hebenſtretia*, of which we have in a preceding Part of this Work deſcribed another Species, with indented Leaves; from which this is diſtinguiſh'd by the Name *Hebenſtretia foliis integris:* undivided leaved Hebenſtretia.

The Root is brown, long, and ſpreading.

The Stem is woody, but does not exceed fifteen Inches in Height; it is divided into many Branches. The Bark is brown upon the lower Part, but the young Shoots are green.

The Leaves ſtand irregularly, and in great Numbers upon the Branches: they grow obliquely upright, and form a kind of abſolute Covering for them of conſiderable Thickneſs; they are oblong, very narrow, and adhere to the Branches without Footſtalks. Their Colour is a freſh and fine green.

The Flowers grow in long regular Spikes at the Tops of all the Branches, and are ſmall and white.

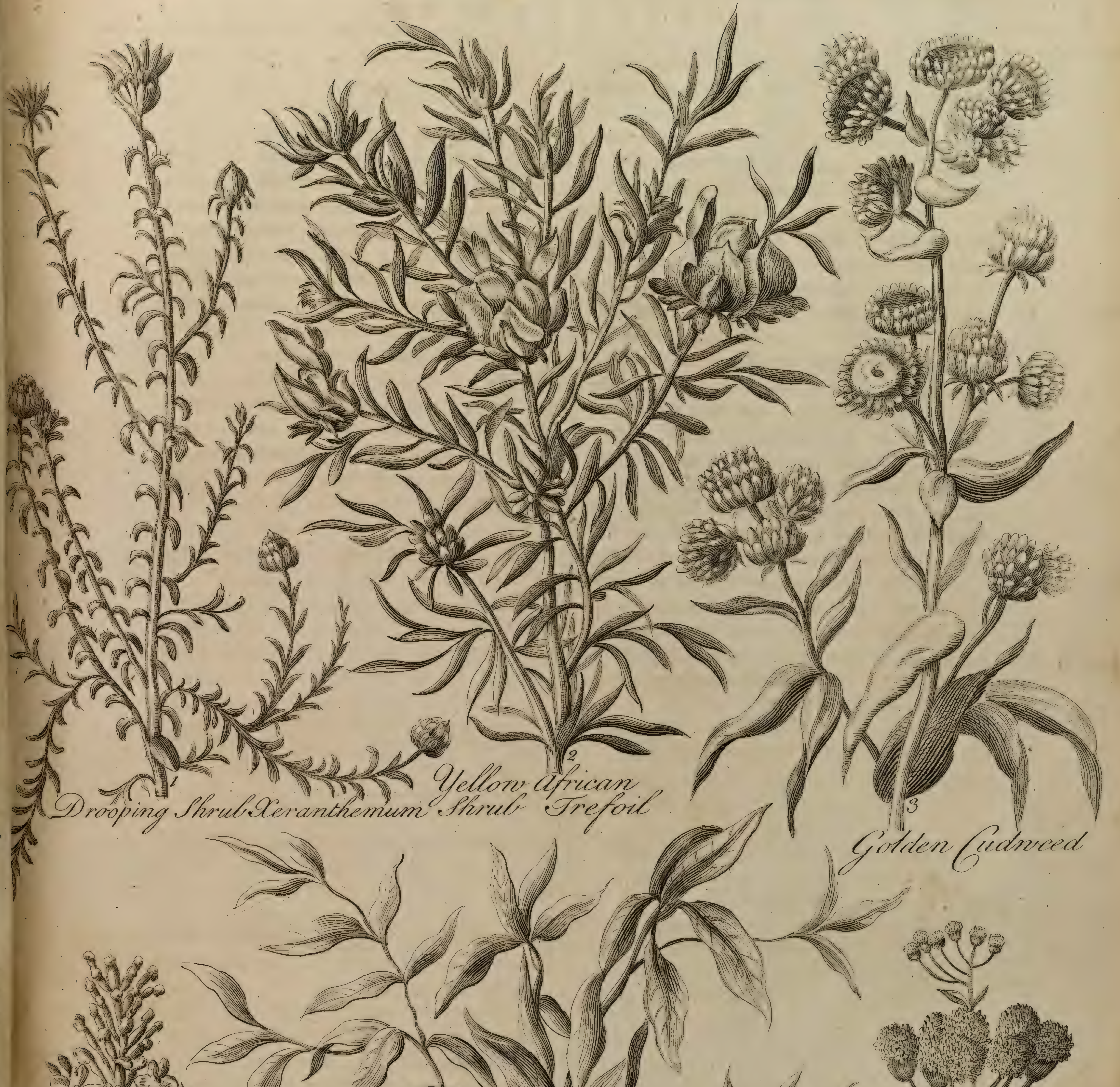
Each has its Cup ſmall, but particular in Structure: it is formed of one Piece divided into two Lips, and tubular at the Baſe. The upper Lip is ſmall, narrow, and erect; the under longer and bent down.

One Petal forms the Flower: it is tubular at the Baſe, and at the Top cut into four Parts: theſe make a kind of upper Lip, the lower Lip of the Cup ſerving in the Place of a lower.

The Filaments are four, and they riſe from the two Sides of the lower Part of the Flower; two of theſe are ſhorter than the others. The Buttons are oblong and lateral. The Style is ſingle, and has a fine ſmall Head; and there follows an oblong Seed-veſſel containing two Seeds.

The Claſs is found in the different Length of the Filaments. The Student has been told already, that when two of theſe are longer than the others, the Plant is one of the *Didynamia:* he will remember alſo that the Subdiſtinction into Orders, is in this Claſs founded upon the Condition of the Seeds, whether they be naked or covered. In this they have a Capſule, and the Plant is therefore referred to the *Angioſpermia*.

Pl. 52.



1 Drooping Shrub Xeranthemum

2 Yellow African Shrub Trefoil

3 Golden Cudweed

4 Narrow leav'd Hebenſtretia

5 Yellow Occidental Caſsia

6 Three fork'd Santolina

Culture of this HEBENSTRETIA.

It is a Greenhouſe Plant, and requires a dry Soil. In this it may be raiſed from Seeds, or Cuttings; but the former in this, as in all other Caſes, is the better Method.

Which ever is choſen, the Soil ſhould be the ſame, freſh Mould from a hilly Paſture, with a Mixture of Wood-pile Earth and clean Sand, of each one fourth the Quantity of the Mould.

The Seeds are to be ſown in a Pot of this, and raiſed by the Help of a Bark-bed, as we have directed on former Occaſions; and when the Plants are large enough to be taken up, each muſt be planted in a Pot of the ſame Mould, and again ſet up to the Rim in the ſame Bed till well rooted: then they muſt by degrees be hardened to the Air, by admitting it in the Middle of the Day; and when they can bear it, they muſt be ſet out among the Greenhouſe Plants, and houſed with them in Winter.

The ſecond Year they will flower; and if all the Branches are permitted to grow as Nature throws them out, the Plant will form a very pretty Buſh, and be covered all over the Top with Flowers. Theſe have a Singularity about them, which never fails to attract even the unaccuſtomed Eye; and gives a Variety beyond moſt others.

The other Way of raiſing it by Cuttings is eaſy, and with due Care will furniſh very pretty Plants.

The Seaſon for this is *July*, and we have before directed the Gardener at that Time always to have two Beds prepared for the Purpoſe of Cuttings; one for thoſe of hardier, the other of the tenderer Kind.

The Cuttings of this *Hebenſtretia* ſhould be planted in the latter Bed, which has a Quantity of Dung under it, and a covering over.

They ſhould be the Shoots of the ſame Year, and they muſt have good Watering. If the Mould be well cloſed about them at firſt, this will ſoon give them a Tendency to rooting; and with the Advantage of the Shelter of Canvas drawn over the Hoops, they will be ſo well rooted in ſeven Weeks, that they may be taken up and planted in ſeparate Pots. Theſe muſt be ſet under the ſame Shelter till they are well eſtabliſhed; and then they are to be placed out among the Greenhouſe Plants.

5. YELLOW OCCIDENTAL CASSIA.

Pl. 52. Fig. 5. This will require ſome Care in the Gardener to bring it to flower in Perfection, but there is Elegance enough in its Appearance very well to return the Attention.

The old Authors could not be acquainted with it, for it is no where native except in the *American* Iſlands, and chiefly in the hotteſt of them.

COMMELINE calls it, *Sena ſpuria occidentalis odore opii viroſo orobi Pannonici foliis mucronatis glabris:* baſtard Sena of the *Weſt Indies*, with Leaves like the *Hungarian Orobus*, ſmooth and pointed, and with an offenſive Smell reſembling that of Opium.

LINNÆUS, who baniſhed all idle Diſtinctions, refers this to the *Caſſia* Kind, to which alſo by its Characters the Tree Sena palpably belongs; and adds as the Diſtinction of the Species, *foliis quinque-jugatis, ovato lanceolatis, margine ſcabris, exterioribus majoribus glandula baſeos petiolorum:* Caſſia with Leaves of five Pairs of Pinnæ, which are of an oval lanceolate Form, rough at the Edges, largeſt outward, and have Glandules at the Baſe of the Footſtalks.

This is a long Name; but the Student will underſtand the Reaſon, when we have told him the Genus Caſſia comprehends a great Number of Species.

When a Genus conſiſts of one Plant, the ſingle Name is ſufficient; when of two, an Epithet of Diſtinction is to be affixed to each, ſhewing the Character by which they differ: when there are no more than two, one Word will uſually convey this Character, and ſometimes when there are more; but, in general, as the Number of Species increaſes, the Diſtinction becomes more complicate, and each muſt be characterized by a Name conſiſting of more Words. This LINNÆUS has found neceſſary on all ſuch Occaſions, and he has executed it with ſufficient Care and Accuracy.

The Root is woody, long, and ſpreading.

The Stem is tolerably firm, upright, and divided into many Branches: the Bark on the main Stem is olive coloured, ſpotted with brown, and full of riſing Warts or Protuberances. Nor is this all its Irregularity; for there run downward from the Footſtalks of each Leaf, alſo two Ribs of a paler Colour.

The Leaves are numerous, and of a freſh pleaſant green. They are in a great meaſure irregular, for Nature indulges in her Wildneſs in their Compoſition; but toward the upper Parts of the Branches, there are uſually ſeveral perfectly formed. Theſe always conſiſt of five Pairs of Pinnæ, with an odd one at the End; but the ſeveral Pairs do not ſtand regularly oppoſite to one another.

The Uncertainty in the Formation of theſe Leaves is ſo great, that ſometimes the extream Pinna is wanting; and in others, the reſt are diſpoſed ſo wildly, that they ſeem independent of one another; and look like ſo many Leaves on a Branch, not ſo many Parts of one Leaf upon a common Footſtalk.

The Flowers are large and beautiful; their

Colour an elegant yellow. Each has its ſlight Cup formed of five looſe Leaves, hollow, coloured, and of ſhort Duration.

The Body of the Flower is formed of five Petals, and theſe are large, rounded, hollowed, and ſomewhat irregular; the two loweſt in each Flower being larger than the others, and more open and diſtant.

In the Centre ſtand ten Filaments; they are long, ſlender, drooping, and of various Lengths and Conſtruction. The three uppermoſt are ſhorter than the others; the three lowermoſt longer; and the three loweſt Buttons are much larger than the others, and of a hooked Figure. They have each a Beak, and they ſplit at the Top.

The four Side Antheræ, or Buttons, have no Beak, and they alſo ſplit when ripe; the three upper ones are diſtinct from all theſe, very ſmall, and ſcarce perfect, or filled with the Farina. This is very ſingular in the Character of the Caſſia, but all the Species of that Genus are alike in it. The Diſproportion does not affect the Claſs of the Plant; that is found from the Number of the Filaments; and as they are ten in Number, it is the *Decandria*, the tenth in the *Linnæan* Syſtem.

The Style is ſingle and ſhort; it riſes from a long Rudiment of a Fruit, fixed upon a Footſtalk, and is crowned with an obtuſe aſſurgent Head. This ſingle Style refers it to the firſt Order under the tenth Claſs, the *Monogynia*.

The Seed-veſſel is an oblong Pod divided into ſeveral Partitions by tranſverſe Plates, and it contains numerous round Seeds.

Culture of this CASSIA.

It is found in thoſe warm Parts of the World where native, in deep mellow Earth, where there is ſome Moiſture. With us it never thrives ſo well as in a Stove; but, with good Management, it will live expoſed in Summer among the Greenhouſe Plants, and only ſheltered with them in Winter.

The Method of raiſing it is from Seeds, or Cuttings; and either Way it requires the common Management with thoſe Plants whoſe native warm Climates make them tender here.

The Seed, if that Method be followed, ſhould be obtained from *Jamaica*, or ſome other Place where it is perfect; and ſown early in *March* upon a common Hot-bed of Dung with other tender Plants.

The young Plants muſt be removed to a ſecond Hot-bed, when the reſt from the ſame Bed are tranſplanted; and after this, when they have got three or four Inches in Height, they muſt be tranſplanted into ſeparate Pots. Theſe muſt be ſet under a Frame, and ſhaded till the Plants are well rooted; and after this removed either into the Stove, or into the Place where the Greenhouſe Plants are kept, according to the intended Management.

When the Method by Cuttings is preferred, it muſt be done in the Manner directed for thoſe of other tender Plants, and at the ſame Seaſon.

The Cuttings muſt be of that Year's Growth; the Bed muſt have Dung underneath, and an arched Covering. When the Cuttings are well rooted, they muſt be planted into ſeparate Pots, and ſet in the Stove, or out among the Greenhouſe Plants as the others.

6. THREE FORKED SANTOLINA.

Pl. 52. Fig. 6. This is another of thoſe elegant *Africans* which furniſh our Greenhouſes and Stoves at once with Variety and Beauty. The old Authors did not know it; and COMMELINE, who has elegantly figured and deſcribed it, calls it by another Name: he ranks it with the *Coma Aureas*, and calls it *Coma Aurea Africana fructicans foliis glaucis & in extremitate trifidis:* ſhrubby Coma Aurea with blue, green Leaves, divided at the End into three Parts.

VAN ROYEN and LINNÆUS refer it to the *Santolina*; and the latter diſtinguiſhes it from the numerous other Species of that Genus, by the Addition of *Corymbis ſimplicibus faſtigiatis foliis trilobis cunei-formibus:* Santolina with ſimple Cluſters at the Tops of the Stalks, and with wedge-like Leaves divided into three Parts. This Name very happily expreſſes the Form of the Leaf, which is oblong, broadeſt and trifid at the Extremity, and ſmaller to the Baſe.

This is the Senſe of the Term *Cunei-form*, wedge-like applied to a Leaf; the Length is greater than the Breadth, and it grows ſmaller from the Extremity to the Baſe.

The Species of *Santolina* are very numerous; but this Form of the Leaf, with the three Diviſions at the Extremity, is a Character found in no other.

The Root is woody, divided into many Parts, and ſpreading.

The Stem is woody, two Foot or more in Height, and divided into numerous Branches.

The Bark is brown, the young Shoots are of a pale ſilvery grey, and the whole Shrub, when ſuffered to grow in its natural Wildneſs, is very elegant.

The Leaves are of a pale blueiſh, or greyiſh green, and have the ſame ſilvery Aſpect with the young Shoots. They have no Footſtalks, but adhere to the Branches by their narrow Baſe, and ſtand irregularly.

The Flowers are numerous, and crown the Branches

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Branches in broad Cluſters. Their Colour is a perfect gold yellow; and with the ſilvery or pearly Hue of the young Shoots and Leaves, it forms a fine Contraſt.

The Flowers are of the compoſite naked Kind; that is, they are formed of little Floſcules cluſter'd together in a common Cup, but not edged by Rays.

Theſe Flowers which others call compoſite and diſcoide, LINNÆUS calls, in general, aggregate. That Term he uſes in Diſtinction from ſimple Flowers. Theſe are ſuch as ſtand ſingle in their Places, and have their proper Organs diſtinct.

The Aggregate are ſuch as ſtand cluſtered in little Heads, and have ſome part of the impregnating Organs ſerving in common.

The Cluſter in the Cup is in this Caſe underſtood as the Flower; and theſe ſmall Flowers, of which it is compoſed, are named Floſcules.

This is the Condition of every aggregate Flower, and theſe LINNÆUS ſubdivides under ſeveral Heads, of which one is the umbellate, which has the Flowers ſupported on Footſtalks, all riſing from one common Point at the Head of the Stalk. To this Kind the preſent *Santolina* belongs, and this will lead the Student to underſtand that Diſtinction.

The Claſs of the Plant is to be ſought in the Condition of the Floſcules.

The Cup that contains them is of a half round Form, and is compoſed of oblong and ſomewhat oval Scales, which lie over one another, and are pointed and bent inwards.

The Floſcules exceed the Scales of the Cup in Length, and are numerous, and all alike; ſurrounded by no Rays, nor intermixed with diſtinct Female Flowers.

Each is formed of one Petal, and is tubular; wideſt at the Mouth, and there divided into five Segments which turn back.

Five very ſhort and very ſlender Filaments are placed in each Floſcule; and on theſe are as many long Buttons, which coaleſcing, form a Cylinder. This determines the Claſs of the Plant, it ſhews it to be one of the *Syngeneſia*, to which Claſs alſo the Generality of the aggregate Flowers are to be referred.

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The Style is ſingle, and of the Length of the Filaments; and it riſes from an oblong Rudiment of a Seed, marked with four Ridges, which give it a ſquare Appearance.

Every Floſcule ripens its Seed; and though their Buttons mutually impregnate the Rudiments in one another; each could ſubſiſt and perfect the Seed alone: this refers the Plant to that Order, under the *Syngeneſious* Claſs, which LINNÆUS has diſtinguiſhed by the Terms *Polygamia equalis*.

Culture of this SANTOLINA.

It is a Native of the *Cape of Good Hope*, where it grows moſt favourably, in rich Soils, by the Sides of Woods, where there is ſome Shelter, and where the Ground is not too dry.

This ſhould lead us to its Culture. A Compoſt made of equal Parts of Garden Mould, and Pond Mud, with a little Cow Dung well rotted, will very well ſupply the Place of its native Soil; and to have it in the full Perfection, we ſhould allow it the Stove Heat: but it is not confined to that degree; for where there is a good Greenhouſe for Winter ſhelter, it may be very well preſerved without.

The Seeds ſometimes ripens with us, and it may be raiſed from them: but it is not worth while either to run that Hazard, or take the Trouble of ſending for them from the *Cape*; for it will grow freely from Cuttings.

The Seaſon for this is ſome Time in *July*; they ſhould be taken from vigorous and healthy Plants, and planted in the Bed made up at that Time with Dung for the tenderer Kinds.

The Method is to be the ſame with that we have juſt directed, and there needs no new Rule for this.

SECTION II.

Of the making of GRAVEL WALKS.

WE have in the two preceding Numbers given Directions for chuſing a Spot of Ground for a Garden, and diſpoſing it in a regular Manner. We have there gone through the general Conſideration of a Garden, and are here to deſcend to Particulars: of theſe Gravel Walks are firſt to be conſidered, their Advantage being ſuch as nothing elſe can ſupply, and the Pleaſure of them depending in a great meaſure on their firſt Conſtruction.

The Advantage of Gravel and Graſs is in a manner peculiar to the *Engliſh* Gardens, and it becomes us to make the moſt of our natural Benefits.

We muſt admire the Taſte of LE NOTRE in the Royal Gardens of *France*; but while we do him the due Honour for their Diſpoſition, with what Concern do we look upon ſuch Walks laid in looſe Mould, and ſuch Plantations without Verdure between. The great Part of a Garden muſt neceſſarily fall under the Articles of Graſs and Gravel, and in theſe we are qualified to excel all the World: but ſo little Care is taken in many Places of them, and ſo little is known of them in others, that we ſee Turf in expenſive Gardens of our own, which would diſgrace thoſe of leſs happy Countries; and Gravel, upon which it is worſe walking than on the Alleys of a Kitchen Ground.

CHAP.

CHAP. II.

Of the Choice of GRAVEL.

TO have good Gravel, the Walks muſt be laid with Judgment; and as this is the Care in new Gardens, it will always be worth while to take it up, and new make the Walks in old ones, where they are found bad. Tho' we are famous in *England* for fine Gravel, yet we have alſo ſuch as is bad; and there will a great deal of the future Succeſs depend upon the Choice in this Article.

Gravel is a Collection of ſmall Pebbles and Flints with more or leſs of a clayey Loam among them. We have Pebbles in vaſt Maſſes with none of this Loam, but they do not properly conſtitute what is called Gravel; they will never lie firm in a Walk, neither is their Colour agreeable.

Putney Heath abounds with theſe; and there are Garden Walks at *Putney*, and in other near Places, laid with them, but they have a dull dingy Aſpect; the Pebbles lie looſe with Hollows and Gaps between them, and the Walks have not the Appearance of Gravel. A great deal of rolling anſwers very little Purpoſe, they will never lie firm, and it is always troubleſome to walk upon them. This is one Extream in the Nature of Gravel; and ſuch is found in many other Places as well as that juſt nam'd: on the other hand we have Gravel in which the Loam is too abundant; and this makes Walks grow wet in the leaſt rainy Seaſon, and are dirty to the Feet: neither do they lie firm unleſs in dry Weather, and with very good Management.

A Gravel ſhould be choſen which is of a middle Quality between theſe, neither with too little nor too much of the Loam; nor is this all: the Loam muſt be of a good Colour, or the Walks will never be agreeable to the Eye; and there muſt be Flints as well as Pebbles, or it will not form a compact Body.

We have Gravels in which the Loam is brown, and others in which it is of the Colour of ruſty Iron; both theſe are very diſagreeable. What we expect in a Garden Walk is a clean yellow; and this depends moſt of all upon the Colour of the Loam in its Compoſition.

The Uſe of the Flints is very evident, Pebbles are round or nearly ſo, and a Parcel of round Bodies are not likely to roll into a firm Walk; the Flints, on the contrary, are in Fragments of all Shapes and Sizes; theſe fill up the Hollows, and make the Loam lie in ſmaller Parcels, and better diſtributed. By this the Gardener will know what Kind of Gravel he is to take, and he will ſee the Reaſon.

It muſt be ſuch as has a good Quantity of Flints among the Pebbles, and a moderate Proportion of a yellow Loam: this, when well managed, will bind like a Rock, and it is this which has given us the Credit of the fineſt Walks in the World. If it happens that there is not any Gravel anſwering this Deſcription in the Neighbourhood of the Place; the Gardener muſt be at the Pains to mend ſuch as there is, by an Addition of what it wants. If it conſiſts only of Flints and Pebbles, let him mix up ſome yellow Clay and Sand into a Kind of Loam, and work this well with it: if there be Sand looſe among the Pebbles, let him add only Clay.

There will require a great deal of Labour to mix up a due Quantity of this well; but when it is done, the Work very well anſwers the Charge, for it will be equal to any natural Gravel: a little Lime may be very properly added to theſe Gravels in the working up, and will make them bind the faſter, but the Quantity muſt be ſmall, or it will give them a crumbly Hardneſs, or impair their Colour; the People who dig Gravel, ſift it in ſeveral Degrees of Fineneſs; but for Walks nothing more is required than taking out a few of the largeſt Stones; for all ſmall or all large Gravel will never anſwer ſo well as that which is mixed as we find it in Nature. In the large, when all the ſmall has been ſkreened from it, there will be Crevices and Hollows too open; and on the contrary, the ſmall, when this is ſeparated, will be too ſoft. The large, like Ballaſt on the Roads, will want Loam, and the ſmall will have too much of it: for in a Manner all the Loam will run through the Skreens. Therefore where theſe have been injudiciouſly ſeparated, the only Thing to be done properly, is to mix them again together.

CHAP. III.

Of laying the WALKS.

A Good Gravel being choſen, and the Place and Breadth of the Walk marked out, the next Conſideration is the laying it.

Let the Gardener obſerve what he ſees amiſs in the Walks of others, and mend it in theſe he has now an Opportunity of making from the Beginning.

He will find that Weeds are a continual Deformity to the Walk, and a Torment to the Gardener: and that all his Cleanlineſs will not keep this Walk of a good Colour, unleſs ſome Prevention be uſed againſt Worms. The Weeds of the worſt Kinds will be prevented by a good Bottom; and the Worms entirely.

Therefore the Space of the Walk being cleared, let him bring in a Quantity of Lime Rubbiſh, ſo much as will cover it five Inches; and ſpread this even. Upon this let him throw on the Gravel in ſuch Quantity as will cover it, when regularly ſpread a Foot deep.

Leſs than this will do, and thoſe who grudge the firſt Expence, may content themſelves with about eight Inches; but 'tis beſt to lay on enough at once, and a Walk thus bottom'd and thus covered, will not be liable to any of the common Accidents, but will keep good for a Perſon's Life, with the common Care.

With Regard to the Form of Walks we are, as on all other Occaſions, running from one Extreme to another, equal faulty.

Our Fathers, not conſidering the Diſcharge of Water, laid their Walks of Gravel flat, and as the principal Track of Feet was in the middle, they ſoon became loweſt in that Part: the Conſequence was, that every Shower of Rain made a Puddle along the middle of the Walk.

This they contrived to remedy in a very aukward and expenſive Manner, by opening Drains underneath, and giving Vent by Stones pierced with Holes at eight or ten Foot Diſtance.

It ſoon after came into their Thoughts to ſupply the Place of this ill-looking and chargeable Contrivance, by rounding the Walks; and this is, where kept in due Bounds, the true Method: but we now exceed thoſe Bounds, and deſtroy the very Intent and Purpoſe of our Walks, by laying them ſo high in the middle, that a Perſon can walk upon no Part of them without Pain.

A flat Surface is the natural Form of Earth on which the Foot ſhould tread; and on the other hand every Walk ought to be a Segment of a Sphere, or otherwiſe the Water will lodge upon it: but to accommodate this to its Uſe, at the ſame Time that it is kept dry the Sweep muſt be very little.

We ſee an Inſtance of the bad Practice of rounding the Walks too much in ſome of the publick Places of Reſort: the Proprietors, finding how much they loſt by their Walks continuing damp ſeveral Evenings after Rain, have laid them ſo high rounded, that no Wet can lodge upon them. They are never damp, but the Feet are put in Pain every Step, and the Ancles ſtrained with walking upon them.

Theſe Extreams let the judicious Gardener equally avoid. The Riſe in the middle ſhould be ſuch that the Eye may juſt perceive it, and the Feet not perceive it at all. A Walk with a little Rounding is more agreeable to look upon than one that is perfectly flat: but any thing more than this is offenſive; it gives a Narrowneſs, and an unnatural Shape. The Eye is a Judge of what is fit for walking before the Feet are brought upon it, and nothing looks well that is not ſuited to its Uſe.

In a Gravel Walk, of twenty-five Foot broad, let the Gardener allow a Riſe in the middle of five Inches, and in the ſame Proportion whatever be the Breadth of the Walk. He will perceive that this is eaſily reduced to Meaſure, for it is the Allowance of one Inch to every four Foot, and this ſhould be the Proportion as well in a four Foot Walk as a forty Foot. It is ſufficient to relieve the Eye from the Fatigue of looking upon an abſolute Flat, and it anſwers the Purpoſe of throwing off the Rain: this is all the Benefit expected from the rounding of Walks; and the Proportion we have named, at the ſame Time that it gives this, is not in the leaſt troubleſome to the Feet.

The beſt Time for making Gravel Walks is in Spring, ſo that all the Gardener can do now, is to mark out their Places, pare off the Surface ſo far as neceſſary for laying the Bottom, and fix upon his Spot of Gravel. It will be fit alſo, if in Time he ſee that Lime Rubbiſh ſhall not be wanting; for in the making a large Garden, there will be no ſmall Quantity required for the Bottoms of the ſeveral Walks.

CHAP. IV.

Of making and keeping the WALKS.

THE Gardener, having every Thing in Readineſs, is to begin this Work of making the Walks at the latter End of *February*. The Height of the ſeveral Parts muſt be marked by Stakes, and theſe ſhould be fixed even before he begins to throw in the Rubbiſh; it is thus every Thing will be conducted with Regularity.

Let the Rubbiſh be thrown in Heaps at ſmall Diſtances, proportioned to the Thickneſs it is to lie, and then be ſpread and laid in the ſame rounding Form that the Gravel is to lie at laſt; but not rolled: the Walk in Rubbiſh muſt be of the ſame Form that it is to have entire; but if it be rolled, as ſome People practiſe, the Gravel does not blend with it. There will be in that Caſe a Bed of Gravel upon a Bed of Lime, but the Intent is, that they ſhould unite and form one Maſs.

The Gravel muſt be thrown on as ſoon as the Rubbiſh is ſpread, and it muſt be ſpread in the ſame Manner, but with yet greater Regularity.

The Method is not to ſpread a thick Coat at once, but to throw it in thin Parcels one over another; and in this Manner let the Walk be laid three Inches higher than it is intended to remain.

The Thickneſſes of Gravel and Rubbiſh we have allowed already, being uſed, it will be preſſed down as much as that Meaſure by that Time it is brought to ſhape.

Let the Gravel be brought directly from the Pit to the Walk, and the ſooner it is ſpread, laid, and preſſed the better: there is a natural Tendency in Gravel, ſuch as we directed to be uſed, to bind when it firſt comes out of the Earth, which is ſoon loſt when it is expoſed to the Air.

The Reaſon of this is plain: the loamy Part is then well mixed among the ſtony, and it has its full natural Strength and Clammineſs; whereas when the Gravel has been ſome Time expoſed in a Heap, the Rains waſh away a Part of it, and the Air calcines the reſt; ſo that there neither remains enough in Quantity, nor has it the true Quality.

Every one knows that the turning up a clayey Soil to the Air breaks it, and takes off the Toughneſs: now the Toughneſs in this Earth which is blended among the Gravel, is the very Quality we want, and ſhould by no Means be impaired.

When freſh Gravel of a good Kind is choſen, and the whole is thus made to its true Form, and by frequent heavy Rollings fixed to it, and preſerved in it, it becomes that kind of Walk Foreigners envy, and which ourſelves never can enough value: it is hard, perfectly ſmooth, and clean. No Rain penetrates it afterward, and every Shower waſhes it. More Height in the Middle may be required where a worſe Gravel is uſed, or where it is worſe put together; but in this Way of making, not only the Form throws off the Water, but the compact Nature and Subſtance of the Gravel does not permit it to remain long enough to penetrate.

The Care and Pains we direct in the firſt laying this Walk, will be very well repaid by its future Beauty, and the Eaſe with which it will be kept in good Condition.

Having been once well fixed in every Part, the Roller will run eaſily over it for the future; and will keep it in its perfect Form without Trouble: but the eaſier the rolling becomes, the oftener let it be done, for 'tis the Buſineſs to preſerve this compact Subſtance and true Surface.

The great Fault of theſe Walks is the Riſe of Weeds upon them; but when this Method is obſerved, there is no great Danger of that Miſchief. Weeds are of two Kinds, perennial and annual, the perennial are the only Kinds which could ſhoot up from the Bottom; and theſe in ill-made Walks are often very troubleſome.

I have ſeen Fern and Thiſtles make their Way through a Gravel Walk, upon a Piece that was once common; and Horſe-radiſh, where it has been made in a Part of the Ground where that once grew; and theſe have been unconquerable, except by a new making of the Walk.

The other Kinds, which are the moſt common, riſe from ſcattered Seeds; as Groundſel, Shepherds Purſe, and Dandelion; theſe are blown about by the Winds, and where they ſtop they ſhoot. The picking them out as they appear is not difficult, but it is an endleſs Work, and it always more or leſs defaces the Gravel. In the careful Manner we have directed of making the Walk, both theſe Evils are nip'd in the Bud.

In the clearing away the Ground for the Space the Walk is to cover, the Gardener knows he is to dig out all large Roots of perennial Weeds which are in the Way; and even if this were omitted, it would not be eaſy for them to make them ſhoot through ſo much Lime Rubbiſh, and ſuch a Bed of Gravel; but with that farther Precaution, it is quite impoſſible there ſhould be any Danger of ſuch Diſturbance.

At the ſame Time the hard rolling of the Walks keeps them ſo firm, and with ſo even a Surface, that the Seeds of Weeds which are blown on them are in like manner blown off again, and nothing remains to ſhoot.

The rounded Figure of the Walks aſſiſts in this; and at the ſame Time the Nature of the Loam which binds with the Gravel, makes it unfit for their Vegetation.

Theſe are the Advantages of good laying and frequent rolling of Gravel Walks; and with this Care there will be no occaſion for that common Practice of breaking them up, and laying the Stuff in Ridges every Winter.

This makes the Walks unſerviceable for a great Part of the Year; and is a moſt unreaſonable Practice, for it contradicts the very Nature of that eſſential Rule which we have laid down for making Walks of Gravel, that has not been expoſed to the Air.

The throwing them up in Ridges gives the Rains, Dews, and Sun, that very Power over them we ſo much wiſh to prevent; and renders the Loam brittle, and looſe. The Seeds of many Kinds of Weeds are alſo received into it while it lies thus, and they ſhoot afterwards. The Gravel that is often turned up in this Manner never can bind well; and inſtead of preventing Weeds, the very Practice occaſions them.

When the Surface is hard and ſmooth, the Seeds cannot lie upon it, nor could they ſtrike if they were to remain; or if they did, the next rolling would deſtroy them in the Shoot. This therefore is the Way to make and keep theſe Walks perfect.

CHAP.

Sept.

CHAP. V.

Of GRASS.

THE Conſideration of Graſs naturally ſucceeds that of Gravel: it is another of thoſe eſſential Parts of a Garden in which we have the Means of exceeding all the World; and in this, as well as the other, the common Practice is very imperfect.

As it is a Beauty in a Gravel Walk to appear a little rounded, ſo the proper Form of Graſs Walks is a perfect Flat. It is not always the Nature and Situation of the Ground will admit of this; but when it is neceſſary to depart from it, the Art is to conceal it from the Eye. As the proper Form of a Graſs Walk is Flatneſs, this ſhould always be preſerved in Appearance, if it cannot be given in Reality.

When the Ground is naturally dry, the Surface of the Graſs Walks ſhould be perfectly flat; but when ſomewhat moiſt, there muſt be allowed a little Roundneſs to prevent the Water from lodging on any Part.

In this Caſe alſo it will be proper to cut Water Tables on each Side; they will at once drain the Body of the Walk, and give it a clean Edge.

Beſide Walks, we are to conſider Graſs in the Capacity of making Plats and Lawns, and thoſe ſeveral other Parts of a Garden which are to be covered with it, whether for the Softneſs and Coolneſs of walking in the Summer, for the Contraſt of Flowers and Plantations.

What we have to obſerve in regard to the Nature of Graſs, is the ſame with reſpect of all theſe; we ſhall therefore conſider only the Form and Conſtruction of the Walks firſt, and afterwards the covering them with this everlaſting Carpet.

CHAP. VI.

Of the Conſtruction of GRASS WALKS.

THE Graſs Walks in a Garden ſhould be fewer in Number than the Gravel, becauſe they are not of ſuch conſtant Uſe; but for this very Reaſon they ſhould be ſpacious; and there ſhould be contrived a very conſiderable Part in Plats, or other Graſs Work, becauſe this green is more natural, and more pleaſing to the Eye; and more of the true Taſte of a Garden than the Gravel.

There is no Error in Gardening greater than that of making Graſs Walks too narrow. It is wrong in thoſe of the other Kind, becauſe it gives them a poor confined Look, but it is doubly amiſs in theſe; becauſe it is not only poor, but unnatural, and the Graſs cannot thrive in them.

The Compaſs and Quantity of Ground to be allowed to this kind of Work, ſhould never reſtrain the Breadth; for 'tis better to have a broad and ſhort Walk than a long narrow one; and much more creditable to have but one good one, than half a Dozen trifling ones.

The Breadth and Length being thus marked out, let the Gardener conſider the Nature of the Ground before he proceeds, that he may know whether they ſhould be made in a perfect flat, or with ſome rounding. Whichever kind be proper, let the Ground be laid with perfect Regularity.

Let him begin by paring off the natural Surface; and if the Walk is to be flat, let him lay it to a true Level; if to be rounded, let him in the ſame Manner take Care that it be done with Truth. The Riſe muſt be very ſmall, an Inch and half is ſufficient in a Walk of five and twenty Foot. Let this be marked by Stakes in ſeveral Places.

When the Surface is pared off, let all the Roots of perennial Weeds be dug out with the greateſt Care; then let the Surface be broke with a Pick-axe, and raked to Shape, and the Quantity of an Inch and half of fine Garden Mould be ſtrewed over it.

Let this be again raked and brought to the exact Form, and there is then the Bed of the Walk made; and it is ready for the Graſs whether that be to be given by Seed or Turfing.

The Method by Seed is eaſy, but it is not comparable to the other. There is great Difficulty in getting good Seed: for that from a common Hayſtack is by no means proper.

Thoſe who chuſe this Method muſt get the Seed from the Graſs of a clean up-land Paſture, and it muſt be ſcattered over the Bed of the Walk very thick, and raked in; levelling the Surface to a Truth as before. After this it muſt be carefully weeded, and afterwards rolled in the ſame manner as thoſe made with Turf.

This is the Method of ſowing, but we have ſaid the other is preferable: it does the Buſineſs ſooner, and much more perfectly. The Graſs from ſowing riſes ſlow, and thin, but the other at once is in full Perfection.

If the Choice therefore be to turf the Walk, the Method is the ſame in preparing the Bed, only the Surface muſt be watered before the Turf is laid down.

The great Article is the proper Choice of the Turf. It ſhould be ſuch as is covered with a very thick ſhort Graſs, and is as free as poſſible from Weeds.

Let the Gardener look over the Ground whence he is to take it with a careful Eye, and chuſe, if poſſible, a Spot where there is not the leaſt Mixture of any other Growth among the Graſs, and where the Graſs itſelf is thick.

The Intent of a Graſs Walk is perfect green; and every Thing that interferes with the Uniformity of that Colour ſpoils it. All tall Weeds

Sept. are hateful, becauſe when they are cut away their Stumps and Bottoms are unpleaſing in the higheſt degree both to the Eye and to the Feet. Daiſies, tho' low, are yet very ungraceful when there are too many of them.

The Gardener finds continual Mowings neceſſary where theſe little Flowers abound, and yet it does not anſwer the Purpoſe: the hydra Heads ſeem to grow beneath the Scythe, and if all be cut off at Evening, there will be Millions open by the ſucceeding Noon. They are very pretty in Meadows; but in the Graſs Work of a Garden, they break in upon that Uniformity of Colour which is the great Article of Beauty.

The only proper Mixture with the Graſs of Turf for Walks is the White Trefoil. It is a ſmall Kind of this Plant which grows on Commons, whoſe Leaves are numerous, their Footſtalks ſhort, and their Colour a fine green: theſe mix well with the Graſs, and form a fine green thick Bottom, and the Flowers in this Kind are few; they are not collected in Heads as the other Trefoils, but ſtand looſe, and near the Ground. Sept.

This little Trefoil therefore has all the Qualities requiſite to thicken and improve the carpeting of Turf; and its being plentiful in the Spot whence that is to be taken, is an Advantage, not a Hurt, but this is the only Weed that ſhould be admitted.

Such a Spot being choſen, let the Gardener prepare for the Work with Alacrity and Diſpatch; Graſs is very hardy; but we wiſh it to grow without a Check when laid down in its new Place; and to this there requires Expedition in the laying, a due Thickneſs of the Body, and a good Preparation of the Bed on which it is to be laid. Theſe we are now to conſider.

CHAP. VII.

Of cutting and laying the TURF.

AT the ſame Time that an inferior Hand is employed in cutting up the Turf, let the Gardener himſelf be preparing the Bed for it. We have directed the Walk to be laid naked, and to have an Inch and half of fine Mould upon it: what he is now to do is to ſee that the Surface be true according to the Deſign, and then he is to ſprinkle it well over with Water.

The Turf freſh cut from the Common is to be immediately laid down in perfect Regularity; and when laid and beat, let it have another good Watering. We know Turfing will ſucceed, that is done with half this Trouble, but we lay down the Method by which the Succeſs will be perfect.

The beſt Time is Evening; the beſt Weather ſuch as is cloudy and inclined to Rain; and to do it in the moſt perfect Manner, only a ſmall Space of the Walk ſhould be covered at a Time.

When the whole is thus laid, let it be lightly rolled with a wooden Roller, and Care taken that this preſſes equally, and is well managed, otherwiſe it will injure the Shape of the Walks, eſpecially of thoſe which are laid with a little round.

After this firſt rolling it ſhould lie to be refreſhed by ſome good Showers; and when about three Parts dried from them, it ſhould be rolled again with the ſame Caution; after this it ſhould be left till the Ground is well dried, and then rolled with a heavier Roller.

Thus the Walk will be kept to its true Form, the Turfs will be blended into one compact covering, and the whole will be perfected.

CHAP. VIII.

Of keeping Graſs in Order.

THE firſt Annoyance the Gardener will perceive on his Graſs Walks is from Worm Caſts: theſe will be very frequent, and unleſs timely deſtroyed, a great Blemiſh. The Method is to break and ſpread them upon the Surface with long, tough, and pliable Aſh-poles. This anſwers the double Purpoſe of clearing them off the Walks, and of manuring the Ground, for they are a very rich Dreſſing; and being thus ſpread upon the Surface, encourage the Growth of the Graſs.

The Care of Weeds has been in a great meaſure obviated, by chuſing a Turf naturally free from them; but if any appear, they muſt be drawn out with great Care.

After this the whole Care will conſiſt in frequent Rolling and Mowing. The oftener this is done the evener will be the Surface, and the thicker the Bottom.

It is uſeful at all Times, but moſt eſſential in Autumn. The Mowings ſhould be more frequent than ordinary at that Time, for nothing can keep the Turf green in Winter but the preventing its ſhooting up into high Blades at this Seaſon.

In all theſe Rollings, both of Graſs and Gravel, Care muſt be taken that they are not damaged in the doing it by the Feet of the Men, or Horſes who draw the Rollers.

The Horſes ſhould be without Shoes, and have their Feet covered with Woollen Mufflers; and the Men ſhould wear for this Purpoſe Shoes that are made flat, and have no riſing Heels.

EDEN:

A COMPLEAT BODY of GARDENING.

NUMBER LIII.

For the latter Part of *SEPTEMBER.*

SECTION I.

FLORA; or the PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. INDIAN EXACUM.

Sept.
Pl. 53.
Fig. 1.

THIS extreamly pretty little annual riſes ſo freely with us from Seed, and makes ſo agreeable a Variety among the larger and more ſpecious Stove Plants, that it very well deſerves the Attention of all who have Opportunities of raiſing it: nor is the Stove Heat to be ſuppoſed eſſential to its flowering; it ſucceeds beſt with that Management, but will live without that Advantage in a warm and well ſheltered Place.

The old Writers could not be acquainted with it, for 'tis not native any where but in the *American* Iſlands. We owe the firſt tolerable Account of it to PLUKENET, who ſeeing ſomething of a Reſemblance of two Plants, the *ſmall Centaury* and the *Saint John's Wort*, in it, named from both, *Centaurium minus Hypericoides flore luteo, lini capitulis:* flax headed yellow Saint John's Wort like ſmall Centaury.

LINNÆUS refers it to a new Genus *Exacum*; and as there is another Species whoſe Flowers are ſeſſile, he diſtinguiſhes this by the Footſtalks to them. *Exacum floribus pedunculatis:* Exacum with Flowers on Footſtalks.

We have an Inſtance in theſe two Names of PLUKENET and LINNÆUS's, of the Imperfection of Botany till the laſt Author's Time, and of the Improvement it owes to his clear Judgment in this great Article of ſpecifick Diſtinctions.

To underſtand any Thing by PLUKENET's Name, it is neceſſary to know two other Plants beſide that to whoſe Genus it was referred: even the Name of that Genus is very unſcientifick; and when the two other Plants, and its Characters are known, we find that this before us belongs neither to that Genus, nor has any diſtinct or proper Reſemblance of the other two.

Such was the uncertain State of botanical Knowledge, ſo vague its Terms, and ſo unſettled its Diſtinctions. A Plant was known by the Name its firſt Finder gave it, however improper, and this travelling from Mouth to Mouth, all that was called the Science was remembering it: Men were content to call him a Botaniſt, who knew Plants by their Names; and he was the beſt who knew moſt in Number.

From this Confuſion and Error, the diſcerning *Swede* reſcued the Science: he gave Names to appropriated Aſſortments of Plants agreeing in obvious Characters; and to be called a Botaniſt now, it is needful to follow him through the Varieties of Nature, and learn them.

'Tis thus in the preſent Inſtance; and what was ſuppoſed to render the Science difficult in this, and other Caſes, is at length found to make it clear.

LINNÆUS finding this and the other Plant we have named, diſtinct from all others in their Characters, yet mutually agreeing in them, ſeparated them from all; and united them together, conſtituting the Genus *Exacum*.

The Characters of this convey the general Idea of the Plant; and this ſhort Addition, *floribus pedunculatis*, its certain, determinate, and ſpecifick Diſtinction.

The Root is long, ſlender, white, and hung with a few Fibres.

The Stalk is round, erect, and at the Top divided in a regular and elegant manner into a number of Branches, which by their Subdiviſions form a round large Head. The Colour of the Stalk is pale, it is ting'd often with brown or red toward the Bottom; and is lightly ſtriated.

The Leaves are placed in Pairs; they are ſmall, of the lanceolate oval Form; that is, narrow at the Baſe, broadeſt at a little Diſtance from it, and thence ſmaller again till they terminate obtuſely.

The Flowers are ſmall, but they are innumerable; they are elegantly placed, ſtarry, of a Gold yellow, and ſpread all over the broad Head by the Subdiviſions of the Branches.

Each Flower has its little four leaved Cup, which remains when it is fallen, defending the Seed-veſſel. The Leaves are oval, obtuſe, and riſe obliquely upwards. The Structure of the Flower itſelf is very ſingular: it is formed of one Petal; and at the Baſe is hollow, ſwelled, and in a manner globular. This Part is of the Length of the Cup. The Rim is cut into four oblong and expanded Segments.

In the Centre are placed four thready Filaments, crowned with roundiſh Buttons. The Rudiment of the Seed-veſſel fills the tubular Part of the Flower; and the Style which riſes from it is ſingle, and of the Length of the Filaments, which is equal to that of the Segments of the Petal.

The Head is thick and roundiſh.

The Seed-veſſel is roundiſh, but compreſſed and furrowed on each Side, and divided into two Cells: in each of which are contained numerous Seeds, with a large Receptacle. This is the Head, the firſt Deſcriber of the Plant reſembled to that of Flax. It is of the Bigneſs of the Cup which remains with it, as does often alſo the Flower faded, and without Colour.

The Claſs is obvious: four Filaments refer it to the *Tetrandria*, the fourth in the *Linnæan* Syſtem, and the ſingle Style ſhews it to be one of the *Monogynia*, the firſt Order of that Diviſion.

Culture of this EXACUM.

To ſee this little Plant in its full Perfection, it ſhould be allowed all the Advantages we beſtow upon the more ſpecious and gaudy Kinds of the ſame Quarter of the World: and this will be very eaſy to thoſe who raiſe others. It is naturally found in dry and half burnt Soils; and this muſt teach us its fit Compoſt: Paſture Earth with ſome Sand and Wood-pile Mould will very well anſwer the Purpoſe; or any of the light, and not too rich Compoſts may be taken.

A Pot ſhould be filled with this early in Spring, and let ſome Seeds obtained from its native Country, or ſaved here, be ſcattered over the Surface; and covered with a Straws-breadth of the ſame Mould: let the Pot be ſet up to the Rim in a Bark-bed, and the Mould at Times watered.

When the Plants have a little Strength, let them be thinned by pulling up the worſt, till there are only four or five left in the Pot, or according to its Size, as many as it can well ſupport.

Theſe muſt be by degrees accuſtomed a little to the Air; and about the latter End of *May* they muſt be taken into the Stove, in the original Pot; for it is eſſential to them not to be removed. They will require moderate Waterings, and will flower, and ripen Seeds perfectly.

2. THREE COLOURED PROTEA.

Pl. 53. Fig. 2.

We have before deſcribed the ſilvery *Protea*, one of the moſt conſpicuous as well as moſt elegant Objects of the Vegetable World. This, though much inferior to it, has yet a great deal of Singularity and Beauty: there is required ſome Care to raiſe and to preſerve it; but the Elegance and Peculiarity very well recompenſe that Attention.

The old Authors were not acquainted with it, but in Times of more Curioſity, thoſe who ſent the Seeds of rare Plants from the *Cape*, gave this among the other Kinds; and it was admired in our Gardens, as ſoon as known in preſerved Specimens brought over by Collectors of natural Curioſities.

PLUKENET, one of the firſt who ſaw it, referred it to the *Chryſanthemum* Kind, adding, *fruticoſum polygoni foliis Africanum caulibus ſcabris flore minore:* ſmall flowered Shrub African Chryſanthemum, with knotgraſs Leaves, and rough Stalks.

We have had Occaſion before to obſerve, how very unartful the old Names were; and this may ſtand as a ſecond Inſtance; the falſe Principle once eſtabliſhed, this laborious Author flew to it on all Occaſions.

It was impoſſible a Plant ſo utterly unlike the *Chryſanthemum* in its real Characters, ſhould impoſe upon LINNÆUS; or the Authority of any Name miſlead him. He referred it to the Genus *Protea*, and adds, as its Diſtinction from the other Species, *foliis ovatis obtuſis imbricatis, capitulis globoſis:* ſpherical headed Protea, with oval obtuſe Leaves placed one over another as Scales. To this

Sept. this he refers the *Protea, foliis oblongo ovatis lana obvolutis* of Van Royen, and Boerhaave's ſhort and round leaved *Conocarpodendron.*

The Root is woody and ſpreading.

The Plant is a Shrub of three, four, or more Feet in Height; and ſometimes a little Tree.

The Stem is tough, and covered with an uneven brown Bark.

The Branches are numerous, they ſtand with perfect Irregularity, and they are of a paler Hue, often covered with a woolly or cottony Subſtance.

The Leaves ſtand thick upon them, entirely covering all the young Shoots, and lying one upon another like Tiles on Houſes, or the Scales of Fiſh: they are ſmall, and of an oval Figure, obtuſe, thick, and of a firm Subſtance, and are more or leſs covered with an irregular cottony Matter; and in Proportion to this they appear green, browniſh, or white; plain, or ſpotted: but their moſt natural and moſt pleaſing Colour is a deep green tinged with brown, and dotted with grey.

The Flowers terminate all the Branches in round Cluſters, not large, but thick ſet, and extreamly elegant. They are of a moſt delicate lively green at firſt; as the Flowers open they appear yellow; and as they decay, brown.

The Flowers open upon every Head in a Succeſſion from the Bottom; and, in conſequence, the three Colours are ſeen on every Head when it has ſome time flowered, and they ſet one another off in a very pleaſing manner. In this Caſe the Bottom of the Head is brown; the Middle, where the Flowers are perfect, is yellow; and the Top, where they are in Bud, is green.

Each Flower is formed of a ſingle Petal, but the Cup is common to them all: this is rounded, and is compoſed of oval Scales laid over one another with a fair Regularity. The Flowers exceed the Scales of the Cup in Length, and cover its Surface in an uniform manner.

The Flower is tubular at the Baſe, and at the Rim divided into four equal Segments, which ſpread open.

In the Centre are placed four Filaments, briſtly, and longer than the Flower, and theſe are crowned with incumbent Buttons. In the Midſt of them appears a Style of the ſame Length, ſingle, upright, and crowned with a round Head.

This takes its Riſe from a roundiſh Rudiment of a Seed, which afterwards ripens, and ſtands naked in the Cup. The whole Number are fixed to a conic Receptacle, and ſeparated by light chaffy Films.

The four Filaments and ſingle Style ſhew the Plant to be one of the *Tetrandria Monogynia* of Linnæus.

Sept.

Culture of this Protea.

The Shrub is a Native of the *Cape of Good Hope,* where it thrives in deep looſe Soils, and fringes the Bottoms of Hills with its innumerable Flowers in a moſt pleaſing and aſtoniſhing manner.

With us it requires the Heat of a Stove, and the beſt Method is to raiſe it from Seeds.

Theſe ſhould be brought over in their Heads; and as ſoon as received in *England* they ſhould be ſhook out upon a papered Shelf, and turned every Day to harden: after this they are to be tied up in Paper Bags, and ſo kept till Spring.

In the Beginning of *March* fill a Pot of ſome of the light Compoſts, ſcatter the Seeds upon this, and ſift over them half a Quarter of an Inch of the ſame Mould. Set the Pot up to the Rim in a Bark-bed, and once in three Days the Mould muſt be very lightly watered.

When the Plants have a little Strength, they muſt be taken up, and each planted in a ſmall Pot. Theſe Pots muſt again be ſet up to the Rim in the Bark, and Care muſt be taken to take up a Ball of Earth with each, and to water it carefully when new planted.

The Glaſſes muſt be ſhaded with a Mat in the Middle of the Day, and from Time to Time a little Air muſt be admitted, and they muſt be watered. When they are well rooted, and have got ſome Strength, they muſt be ſhifted into larger Pots, and taken into the Stove.

3. CRIMSON IXORA.

Pl. 53. Fig. 3. The *Indies* ſcarce afford us a Shrub of greater Elegance than this high coloured *Ixora:* or one more qualified to ſtrike the Attention even of the Incurious, or promote the Love of the Science. The old Writers were not acquainted with it; but Plukenet and Burman have ſhewn they had a due Senſe of its Excellence.

They have referred it to the *Jaſmines,* a natural Error, from the tufted Growth, and general Aſpect of the Flowers; but by no means juſtifiable in thoſe who have conſidered the Science of Botany. If they had overlooked that Character from which Linnæus deduces the Diſtinctions of Claſſes, or had not ſeen, or had not regarded that the *Jaſmines* have only two Filaments, and this Plant four; they ſhould have ſtill ſeen the more obvious Character, that the *Jaſmine* Flower is cut into five Segments, large and diſtinct like Petals; and this only into four.

Overlooking all this natural Diſtinction, Plukenet has called the Shrub *Jaſminum indicum lauri folium indorum umbellatum floribus coccineis:* Bay leaved Indian Jaſmine, with crimſon ſcentleſs Flowers in Umbells.

Burman has leſs Excuſe, he wrote with more Obſervance of Nature, and after Linnæus; but againſt all this he preſerves the Name *Jaſmine;* and triumphing in continuing in the Wrong, againſt the Evidence of his Senſes as well as Reaſon, names it *Jaſminum flore tetrapetalo Ixcra Linnæi, Schetti Horti Malabarici:* tetrapetalous Jaſmine, which Linnæus calls Ixora, and the Malayans Schetti. Would it not appear from this that BURMAN held at once the Number of the greater and leſſer Parts of a Flower, frivolous in Point of generical Characters, and placed LINNÆUS on the Rank of the leaſt ſcientifick Writers.

The Eſtabliſhment of a Syſtem on the ſmall Parts of Flowers, which is at preſent underſtood to be the Glory of LINNÆUS, is indeed liable to Exception: but for the reſt, his Characters of Genera, and his Diſtinctions of Species, he deſerves all that Honour which is paid him now, and will be paid to his Memory as long as Botany is a Science.

Referring this Shrub to the *Ixora*, he adds as its Diſtinction from the other Species, *Foliis ovalibus ſemi-amplexi-caulibus:* Ixora with oval Leaves which partly embrace the Stalk. There is a great deal of Wildneſs in the general Growth of the Shrub, and of Uncertainty in the Diſpoſition of the Leaves; but thoſe on the upper Parts of the Branches have always this particular Character.

It is a Shrub of conſiderable Growth, and in its native Country riſes with numerous Shoots to eight or nine Foot in Height, variouſly branched; and, when in full Flower, too bright to be long looked upon.

The Root is long, and penetrates to a great Depth in the Earth, and is brown on the Outſide, red within, and full of Juice.

The main Stems are of a duſky purpliſh brown; the Branches paler, and of a ſomewhat browner Hue; and the young Shoots grey.

The Leaves ſtand in Pairs, and are large and handſome; thoſe on the lower Part of the Branches have ſhort Footſtalks, thoſe on the upper none: and of theſe laſt, ſuch as ſtand neareſt to the Extremities, in Part ſurround the Stalk at the Baſe. They are of an oval Form, and firm Subſtance. Their Colour on the upper Side is a fine ſtrong browniſh green, bright and ſhining; and on the under Side more pale and dead.

The Flowers crown the Tops of all the Branches in large Tufts, and they are of a glowing Crimſon, deep and bloody as it was at firſt; afterwards paler, and as they fade yellowiſh; they have no Scent. Nature, when ſhe gives ſo much in Colour, often denies that farther Advantage.

Each Flower has its Cup, which is formed of a ſingle Piece, cut into four Parts at the Edge, and permanent. The Flower is formed of a ſingle Petal, tubular at the Baſe, and cut into four Parts at the Edge.

The Tube is very long and ſlender, and is of the ſame Crimſon with the reſt of the Flower; this gives a ſingular Aſpect to the whole, and each Flower ſeems to have its long ſlender crimſon Footſtalk: ſo VAN RHEEDE ſuppoſed theſe tubular Baſes of the Flowers to be, and ſuch BURMAN ſeems to have underſtood them, calling the Flower *Tetrapetalous:* the four Parts unite at the Head of this Tube, and are therefore nothing more than Segments. Theſe Segments are oval, flat, and expanded.

The Filaments are four; they are very ſhort and crooked, and they are placed in the Diviſions of the Flower, and crowned with oblong Buttons.

The Style is ſingle, and of the Length of the Tube; it riſes from a round Rudiment in the Baſe of the Cup, and is crowned with a Head ſplit into two Parts.

The Fruit is a roundiſh Berry, and divided into two Cells; in each of which are two Seeds, angular on one Side, and convex on the other.

The four Filaments and ſingle Style refer the Shrub to the *Tetrandria Monogynia* of LINNÆUS; the fourth Claſs of that Author, and its firſt Section.

Culture of this IXORA.

It is a Native of the warmeſt Parts of *Aſia* and *America*; and with us will never ſhew its full Beauty, unleſs it be allowed the Advantage of a Stove.

The Method of propagating the Shrub ſhould be by Layers. The Seeds never ripen perfectly in cold Climates, and there is great Uncertainty in getting them freſh, and in a growing Condition, from the *Indies.* The firſt raiſing of the Shrub muſt be from theſe; and the Method is to be the ſame we have juſt directed for the raiſing the *Protea:* but when a good Plant is once obtained, the Layers are the right Practice.

In *March*, two or three Boxes of a rich Compoſt ſhould be placed about the Shrub, and raiſed to ſuch a Height that a Branch may be eaſily brought down to each. This is to be laid in the uſual Manner, ſecuring it well in its Place, and from Time to Time refreſhing it with Water.

The Warmth of the Air, and the Moiſture added to the natural vegetative Vigour of the Tree, will make them ſoon take Root. In *June* they will be ready to take off from the old Plant; and they muſt then be planted with Care in ſeparate Pots: they muſt be ſhaded and watered till they have taken Root, and they will afterwards require no more Care than that beſtowed on other Stove Plants.

4. MITCHELLA.

Pl. 53. Fig. 4. This elegant little Plant we owe, like the others juſt deſcribed, to modern Curioſity. The old Writers could not know it, for it is found only in *America*; but the Science of Botany no ſooner travelled thither, than this was one of its Diſcoveries.

But though the firſt *American* Botaniſts, and all who wrote after them, have named it; 'tis but of late Time that it has been reduced to a proper Genus.

The inferior Race of Botaniſts take theſe Things as they are; 'tis to Linnæus the Honour belongs of aſcertaining old, or eſtabliſhing new Genera; and upon theſe Occaſions the Eyes of *Europe* are conſtantly turned to him. There requires Knowledge and Spirit to adventure theſe Deciſions, and 'tis happy for the learned World, even for thoſe who moſt cenſure that Author, that he has ſhewn both. Till his Time this elegant Plant has had almoſt as many Names as there were Writers who have mentioned it.

Petiver, who firſt gave us Knowledge of its general Form, called it by a Name perfectly undeterminate, *Baccifera Mariana clematis daphnoides minoris folio:* a Maryland Berry-bearing Plant, with Leaves like the ſmall Periwinkle.

Catesby, though he called it a *Syringa*, is not to be ſaid to have given it that Name, he took Plukenet's, which is, *Syringa baccifera myrtis foliis ſubrotundis floribus albis Gemellis*: Berry-bearing Syringa, with roundiſh Leaves like thoſe of Myrtle, and with white Flowers two together.

Gronovius, much more modern and more acquainted with the Laws of Science, refer'd it to the *Lonicera*, adding as its Diſtinction, *Foliis ſubovatis germine bifloro corollis interno hirſutis ſtylo bifido:* oval-leav'd Lonicera with Flowers hairy within, and riſing two from the Germ, and with a divided Style.

Thus ſtood the Plant known to all Botaniſts, but ill examined as to its Characters; and refer'd to a Genus to which it did not belong; till Dr. Mitchell, to whom the Science owes great Advances and Improvements, examining its Characters, found it diſtinct from all known Kinds, and named it *Chamæ Daphne.* Linnæus rewarded him with Immortality: he removed the Name; and, retaining the Genus, gave it that of its Author, *Mitchella.*

To this, as there is no other known Species, he adds no Epithet.

It is a very delicate Plant.

The Root is compoſed of many long Fibres, connected to a ſmall Head.

The Stalk is round, and not very firm, ſtained toward the Ground with red; and for the reſt, of a pale green.

The Leaves are placed in Pairs: they are ſmall, oval, and of a freſh green Colour, lightly rib'd, and ſupported on ſlender Footſtalks.

The Flowers terminate the Stalk, and two naturally riſe there together; they are large, white, and hairy within.

The two Flowers riſe from the ſame Rudiment; but each has its ſeparate Cup. This is ſmall, upright, permanent, and cut at the Top into four pointed Segments.

The Body of the Flower is formed of one Petal, and is long, hollow, and as *Tournefort* has taught us to expreſs ourſelves, Funnel-faſhion'd; but 'tis a coarſe and ill choſen Term: 'tis broadeſt at the Mouth, where it opens into four Segments; and thence gradually ſmaller to the Baſe; it is ſmooth on the outſide, and hairy within.

Four oblong upright Filaments riſe from the Diviſions of the Petals, and are crowned with oblong acute Buttons.

The Style is ſlender, thready, and is crowned with four oblong Heads. Each Flower has its Style, and they riſe from the Germ or Rudiment which is placed beneath the Receptacle of the two Flowers. Its Form is rounded and doubled; and it ripens into a globular Berry divided into two Parts with ſeparated Dents.

The Seeds are four, and they are of a compreſs'd Form, and callous Subſtance.

Culture of the Mitchella.

It is a Native of *North-America*; and though a delicate, is a ſhrubby Plant. There is no great Care needed for its Culture, and were it much more tender, the Singularity of the Flowers would very well deſerve any Attention in raiſing it.

The Soil for it ſhould be a Mixture of two Parts Garden Mould, and one Pond Mud. The Seeds are the beſt Source for good Plants, and they ſhould be ſown in Spring upon a Bed of this Compoſt in the Nurſery.

When the Plants come up they ſhould be thinned if they riſe too cloſe, and carefully weeded and watered till they are of a Size to tranſplant. They may then be planted out in the Garden in ſheltered Places, and they will flower in their full natural Perfection. Some pot them, and give them the Shelter of a Greenhouſe in Winter; but it curbs their Growth, and is not neceſſary.

5. SHRUBBY JUSSIÆA.

Pl. 53. Fig. 5. This is a very elegant and ſingular Plant, unknown till of late Time, but worthy to be introduced into every Garden where there are Opportunities of raiſing it.

HERMAN has deſcribed it under the Name of a *Liſſymachia*, adding *Non pappoſa flore luteo minimo, ſiliquis caryophillorum aromaticorum æmulis:* little yellow-flower'd Lyſimachia with Seeds not downy, and with Pods reſembling the Clove Spice.

VAN ROYEN referred it to the *Ludwigia*, adding, *Copſulis oblongis:* Ludwigia with oblong Pods. LINNÆUS, with better Regard to the Characters of Nature, refers it to the Genus *Juſſiæa*, ſo named from the diſtinguiſhed *Juſſieu* of *Paris*, who ſtudies and teaches Botany under the Patronage of his Sovereign: he adds, as the Diſtinction of this Species, *Erecta villoſa floribus tetrapetalis octandris pedunculatis:* upright hairy Juſſiæa, with four-leav'd Flowers on Footſtalks, and eight Filaments in each. This is a ſingular ſpecifick Diſtinction, but it is highly juſt, for the ordinary *Juſſiæas* have ten. It ſhews the Imperfection of the Syſtem of LINNÆUS, while it commends his moſt accurate ſpecifick Diſtinctions.

The Root is white, and hung with innumerable Fibres.

The Stem is firm, and almoſt woody; the Height three Feet, and the Branches numerous. The main Stem has the Remains of four Ridges, and the younger Shoots are abſolutely ſquare.

The Bark is brown, with a Tinge of red on the older Parts, but on the younger it is pale; and the young Shoots are lightly hairy.

The Leaves are numerous, and of an elegant Form, oblong, moderately broad, undivided at the Edges, and ſharp-pointed; they ſtand alternately on the Branches, and they have very ſhort Footſtalks; thoſe on the extreme Parts none. They are broadeſt toward the middle, and truly lanceolate. Their Colour is a ſtrong green on the upper Side, and a faint or whitiſh green below: and they are lightly hairy, ſoft to the Touch, and of a tender Subſtance.

The Flowers are ſmall, and of a delicate yellow; they ſtand in the Boſoms of the Leaves, the Rudiments of the Fruit ſerving in the Place of Footſtalks.

Each Flower has its Cup, this ſtands together with it on the Rudiment, and is ſmall, and compoſed of four little oval pointed Leaves, which cohere at the Baſe, and remain after the Flower is fallen.

The Body of the Flower is compoſed of four roundiſh Petals, which ſpread wide open; and the Filaments are eight: they are ſhort, and they have roundiſh Buttons.

The Style is ſingle and ſlender, and its Head is thick, and marked with five Ridges.

The Seed-veſſel is oblong, thick, crowned with the Cup, and filled with numerous Seeds in ſeveral Series. It is this Seed-veſſel, which throughout the whole Time of the Plants flowering, makes ſo conſpicuous a Figure. It is an Inch in Length, and has the Ridges ſlight, and the Crown large.

They are of a pale green at firſt, afterwards of a deep brown; and they reſemble in this laſt Condition extremely the common Clove Spice.

The Student will at once refer the Plant to the *Octandria* of LINNÆUS; bnt he is to be told the *Juſſiæa* belongs to the *Decandria.* Nature wantons a little in this Matter; and the general Number in the Genus is ten Filaments, and five Petals or Segments. LINNÆUS obſerves, that one fifth of the Number in all the Parts is in ſome Species deficient, and this is an Inſtance: but it is not conſtant or certain even in this; for there are Flowers on ſome Plants, in which the Filaments are regularly ten. In theſe the Ridges on the Rudiment of the Fruit are five, the Leaves of the Cup five, and the Petals of the Flower of the ſame Number.

Culture of this JUSSIÆA.

It is a Native of the warmeſt Part of the *Indies*, and thrives beſt near the Waters, where the Soil is deep, mellow, and rich.

With us it ſhould be raiſed from Seed in a Soil of the ſame Kind.

The Compoſt ſhould conſiſt of equal Parts of Garden Mould and Pond Mud, and in this the Seeds ſhould be ſown in a Pot, which when they have been covered a Straw's Breadth with the ſame Mould, muſt be ſet up to the Rim in a bark Bed; and there managed as we have directed before.

There requires nothing particular in the Management of the Plants; only where they are large enough to remove, they muſt be at once put into Pots of a Size to hold them when full grown, for they do not well bear often removing; and when they are well rooted, muſt be ſet in, to take their Fate with the reſt.

6. TRIFID LEAVED LEUCADENDROS.

Pl. 53. Fig. 6.

This is a very ſingular Shrub, of a Genus diſtinguiſhed for its great Beauty, and itſelf not deſtitute of that Character, though inferior to many of the others.

The earlier Writers were not acquainted with it, nor did thoſe who firſt receiv'd Plants from *Africa* know by what Name to call it.

PLUKENET, by a ſtrange Thought, referred it to the *Cyanus*, adding as its Diſtinction, *Æthiopicus rigidis capillaceis tenuiſſimis foliis trifidis:* Æthiopian Cyanus, with harſh very fine Leaves terminated by three Points.

VAN ROYEN referred it to the *Protea*, and added, *Foliis linearibus ramoſis:* Protea with linear branched Leaves.

LINNÆUS places it with the other Species of *Leucadendros*;

Sept. *Leucadendros*; and adds; *Foliis ſetaceis ſemitrifidis.* Leucadendros, with ſetaceous Leaves imperfectly divided into three Parts.

It is a ſmall Shrub, branched, and naturally ſpreading.

The Root is divided into many Parts and hung with Fibres.

The Stem is firm, brown, and upright. The young Shoots are tinged with red.

The Leaves are very numerous and fine; they are ſmall, and of a pale green, and are divided into almoſt capillary Segments, whoſe natural Termination is in three Points.

The Flowers are collected into ſmall Heads at the Extremities of all the Branches. They ſtand in great Numbers in a common Cup; the Scales of which are unequal in Size, and lie looſely one upon another.

Each Flower is compoſed of two Petals, and is oblong, and has a downy Aſpect on the outſide. The upper Petal has a long narrow Baſe; and in the upper Part is lanceolate and undivided; in the lower Part this is cloſely united to the under Petal. This lower Petal has alſo a long Baſe, but it is three Times as broad as in the upper; and the Verge is oblong, ſemicylindrick, and cut at the Ends into three Segments: this is the very ſingular Structure of this Flower.

The Filaments are four; they are very ſhort, of a tubulated Form, and are inſerted within the Segments.

The Buttons or Antheræ anſwer to the reſt in the Peculiarity of their Shape and Conſtruction. Each of theſe is properly compoſed of four, which unite into a cylindrick Form.

The Style is extremely long, and is crowned with a ſimple Head. It riſes from the Rudiment of a Seed which is ſomewhat long; and when ripe, remains naked in the Cup. Sept.

The four Filaments and ſingle Style ſhew this to be one of the *Tetrandria Monogynia* of LINNÆUS, the fourth Claſs in that Author's Syſtem, and its firſt Section.

Culture of this LEUCADENDRON.

It is a Native of the *Cape of Good Hope*, where it lives beſt in a dry looſe ſandy Soil, and ſpreads into a vaſt Shrub with cluſtered Branches.

With us it requires the Heat of a Bark-bed to raiſe it from Seed, which is the beſt Method, and afterwards the Winter Shelter of a Greenhouſe.

The Seeds of this ſhould be procured as freſh as poſſible from the *Cape*, and in Spring ſown upon ſome of the light and not too rich Compoſts in a Pot. The Seeds require to be juſt covered with Mould, and the Pot is then to be ſet up to the Rim in Bark.

When the Earth grows dry it muſt be lightly refreſhed with Water; and when the Plants are two Inches high, they muſt be tranſplanted each into a ſeparate ſmall Pot of the ſame Compoſt. In this they muſt be ſet again in the Bark-bed, and ſheltered with Mats from the Noon-day Sun till well rooted; refreſhing them often with Water.

When they are well rooted, the Air muſt be admitted to them by Degrees; and when they are able to bear it, they muſt be brought out among the Greenhouſe Plants; and taken into the warmeſt Part of that Building in the Beginning of Autumn; managing them in all Reſpects as Greenhouſe Plants.

7. CALLICARPA.

Pl. 53. Fig. 7. *America*, which like *Africa* to the Antients, is continually affording us ſomething new in Botany, has not at any Time ſhewn a more peculiar Shrub than this: a Vegetable of the woody Kind with the Aſpect of a verticillate Plant; and with Berries for the Fruit. The Botaniſt could ſcarce form in his own Mind a ſtranger Combination.

In naming *America* for its Country, we exclude the earlier Writers from any Knowledge of the Plant. Of late Time many have deſcribed it, but till LINNÆUS none named it properly. CATESBY calls it *Frutex baccifer verticillatus foliis ſcabris latis dentatis & conjugatis:* a verticillate Berry-bearing Shrub, with broad rough rugged Leaves placed in Pairs. This may be received as a ſhort Deſcription, but could not be admitted as a Name. GRONOVIUS in the ſame Manner calls it indeterminately, *Frutex foliis ſubrotundis acuminatis, ex adverſo binis viminibus lentis infirmis quaſi leno canitie tectis:* a Shrub with large roundiſh pointed oppoſite Leaves, and with tough weak Twigs, covered as it were with a light Down. This is alſo a Deſcription put in the Place of a Name, but the Particulars are ill choſen, and the long Phraſe leſs expreſſive than that of CATESBY. PLUKENET calls it *Anonymos baccifera verticillata folio molli & incano ex America:* a nameleſs American verticillate Berry-bearing Shrub, with ſoft woolly Leaves. With ſuch Names was the World content, till that Improver of the Science ſtarted the true Method. Dr. MITCHEL, after this, called it *Sphondylococcos*; and laſt of all LINNÆUS, *Callicarpa:* to this, as there is no other known Species, he adds no Epithet of Diſtinction.

It is a Shrub of irregular Growth.

The Root penetrates deep into the Earth; the Stem is covered with a brown Bark; and the Branches, which are very numerous, are of a pale olive Colour. Theſe ſpread variouſly and irregularly, and the whole has a pleaſing Aſpect.

The young Shoots are long, tender, and delicate, but not brittle. They throw themſelves naturally obliquely upwards, and they are of a pale greyiſh green: this is a Mixture of their natural Colour, which is a pale green, and of a whitiſh woolly Matter, which is ſpread thinly over them.

The Leaves are placed in Pairs, and they have ſhort Footſtalks: they are roundiſh, but ſmall at the Baſe; lightly notched at the Edges, ſharp pointed, and of a pale or greyiſh green: they are ſoft to the Touch, and covered in a light manner with the ſame Kind of woolly Subſtance, which ſpreads itſelf over the young Shoots.

The Flowers are pale red; they are placed in Cluſters round the Twigs, at the Inſertions of the Leaves, exactly as in the verticillate Plants. Singly they are ſmall and inconſiderable, but in the Cluſter they are ſufficiently conſpicuous; the more ſo as this Diſpoſition is very uncommon upon woody Plants.

Each Flower has its Cup, which is ſmall, hollow, bell-ſhaped, formed of one Piece, but nip'd in four Parts at the Edge.

The Flower is formed of one Petal, and is tubular, the Verge divided at the Edge of the Cup into four expanded obtuſe Segments.

The Filaments are four, and they are of twice the Length of the Flower: they are crowned with oval incumbent Buttons.

The Style is ſingle, and is thicker in the upper Part than below: it is terminated by an abrupt Head, and riſes from a roundiſh Rudiment of a Fruit.

The four Filaments and ſingle Style refer the Shrub plainly to the *Tetrandria Monogynia* of LINNÆUS. The Rudiment afterwards ripens into a round, ſmooth Berry, with four oblong callous Seeds riſing on one Side, and hollowed on the other, and in the whole ſomewhat compreſſed.

Culture of the CALLICARPA.

It is a Native of the northern Parts of *America*, and will live with very little Trouble in our Gardens. The Seeds brought from thence grow here freely, and the laſt Method of raiſing the Shrub is by them.

They muſt be ſown on a Bed of freſh Earth in a Nurſery, and weeded and watered as they advance in Height till they are four or five Inches high; at which Time they may be either planted out in another Bed, or removed at once into the Places where they are to remain.

They may be afterwards encreaſed by Layers, or by Cuttings very well managed; and in either Caſe they ſhould be left to Nature in regard to their Form of Growth, for they never do ſo well as in their wild Shape.

8. AVICENNIA.

Pl. 53.
Fig. 8.

The Druggiſt has been long acquainted with *Anacardiums*: he is to be informed this Tree produces them: and it is one of thoſe which gives a diſtinguiſh'd Beauty to the *Indian* Foreſts. The Figure of the Fruit is common in all the botanical Writers, but that of the Tree was long unknown.

The Author of the *Hortus Malabaricus* has given it under the Savage Name *Oepata*; and LINNÆUS has explained and aſcertained the Characters under the Title *Avicennia*: to this he adds no Epithet, for there is no other known Species.

It is a vaſt and very noble Tree, equal to our Elms in Height, and Thickneſs of the Trunk; and full of Branches. The Bark is rough, and of an olive brown, the wood white and brittle; and the young Shoots of a greyiſh green.

The Leaves are very numerous and elegant, large as thoſe of the Laurel, and not unlike them in form: they are placed in Pairs, and they have ſhort Footſtalks. Their Colour on the upper Side is a ſtrong green; on the under, greyiſh; and they are of a firm Subſtance.

The Flowers crown the Extremities of the Branches in large Cluſters. Their Colour is a bright yellow edged with white, and they are very fragrant.

Each has its ſmall permanent green Cup; this is formed of one Piece, and divided into five Segments at the Edge.

The Flower is formed of one Petal, which is divided into four Segments, of an oval Form, but pointed.

In the Centre riſe four ſhort Filaments, with divided Buttons; and in the Midſt of them a ſingle Style, ſhort, permanent, crowned with a pointed Head, and riſing from an oval Rudiment. This by degrees enlarges into an oval Fruit, with a Point; which in one Cell contains a ſingle Seed, compreſſed, oblong, and ſo full of Vigour, that it will ſhoot out the firſt Traces of Root and Leaves while contained in the Fruit.

The four Filaments and ſingle Style in the Flower refer this Tree to the *Tetrandria Monogynia* of LINNÆUS.

Culture of the AVICENNIA.

The Method of raiſing this elegant Tree is from Seed, and the great Hope of Succeſs conſiſts in obtaining that freſh.

In Spring it muſt be planted carefully in a Pot of freſh Mould, covered a Quarter of an Inch, and ſet in a Bark-bed which has not too much Heat.

When the young Plants appear they muſt be watered: when three Inches high they muſt be taken up each with as much of the Mould as can be preſerved about it, and planted in ſeparate Pots.

Theſe muſt be again ſet up to the Rim in Bark, and ſhaded well, and watered lightly till they are rooted: they muſt then be inur'd by degrees to bear a little Air, and afterwards ſet out among the Greenhouſe Plants: they muſt be watered frequently and early in Autumn taken into Shelter.

Pl. 53.

1
Indian Exacum
Three colour'd Protea
2
3
Crimſon Ixora
4
Mitchel-la
5
Shruby ſ Jussiæa
6
Trifid Leucadendros
7
Callicarpa
8
Avicennia.

J. Hill delin et Sculp.

Sept.

As they encreaſe in Bigneſs, they muſt be removed from Time to Time into freſh Pots of larger Size; and every Time there muſt be as much of the old Mould preſerved about them as will ſecure them from receiving any Check in the Removal; and they ſhould be every Time ſhaded till well rooted.

Sept.

* * *

SECTION II.

The Conſtruction of a GREENHOUSE.

WE have given the needful Directions for chuſing the Ground for a Garden, diſpoſing the ſeveral Parts, and covering the Walks with Graſs and Gravel.

The Subject of Compoſts, with the Manner of planting, we have delivered at large under the general and particular Culture of more than three Hundred curious Plants and Flowers, with which we purpoſe it ſhould be enriched; and as many of theſe are too tender to bear the cold Air of our Winters, though they will very well endure the open Seaſons in our more favourable Months; it follows here in courſe, that we give the Manner of conſtructing the Building in which they are to be ſheltered during that ſevere Time.

Let the Gardener underſtand that the general Intent of a Greenhouſe is to encreaſe the natural Warmth of the Air about the Plants preſerved in it; and this on all common Occaſions, without the Aſſiſtance of actual Fire: but as in our variable Climate there are ſometimes Winters more ſevere than uſual, there ſhould always be the Means of giving this Aſſiſtance, however ſeldom it is done. Here is the great Article; and there muſt be occaſionally the Means of Shelter: the Air muſt be admitted when mild, and there muſt be the Opportunity of doing this in various Degrees.

On theſe Principles he will underſtand, that his Greenhouſe muſt be ſo conſtructed as to give him Opportunities of admitting or ſhutting out the Air and Sun, as either is in a Condition to do good or hurt to the Plants.

Let him firſt chuſe a proper Spot. It muſt be open to the South, and the more it is ſheltered from the North and Eaſt Winds the better. It muſt be in a Part of the Ground where the Soil is dry, and if there be a natural Riſe ſo much the better.

In this Place let him mark the Plan of his intended Building; and in the Deſign, let nothing more have Conſideration. It is common to load a Greenhouſe with upper Rooms, but that is wrong. The back Wall may ſerve for the erecting of Sheds for Tools, and other ſuch like Purpoſes, but nothing more ſhould be done. The Superſtructure ſhould never be allowed, becauſe it implies a Solidity below which is out of the Character of the Building. The Sheds behind are, on the contrary, right, becauſe they rather are a Support, ſerving in the Manner of Buttreſſes to the main Wall.

The Sight is alſo offended at a tall heavy Building in a Garden; and its Shadow is hurtful. A Greenhouſe properly built is in Character, and is an Ornament: but ſuch an Edifice is a Piece of Lumber.

The Extent of the Plan muſt be adapted to the Number of the Plants intended to be preſerved; but in this it will be always proper to make it larger rather than leſs, than the intended Quantity might ſeem to demand. Botany is a very bewitching Study, and thoſe who enter at all into it, generally go farther than they at firſt thought they ſhould.

This Difference in the Extent, concerns only the Length of the Building; for its Depth is ſubject to a regular Meaſure, being limited by the Nature of the Deſign. Fifteen Foot is the proper Space of the Floor in Breadth; and though Proportion might demand that in longer Greenhouſes, this ſhould be greater, and in ſhorter leſs; yet the Care of the Plants is the ſole Conſideration the Gardener ſhould regard, and therefore this Meaſure may ſtand good for all Greenhouſes.

The Back is to be a ſtrait, upright Wall; and the Front in a manner all Glaſs.

The Height ſhould be in front one eighth more than the Breadth, conſequently the Windows ſhould be ſixteen Foot in Length, and they ſhould reach from the Top to within ten Inches of the Ground: a Wall of that Height being raiſed to receive them.

Here then is the Form of the Greenhouſe, the Back, and the Ends are to be of Brick; and a low Wall of Brick in front: from this are to be raiſed Saſhes to the Cieling: theſe ſhould be five Foot and a half in Breadth, and Piers of Brick muſt be carried up between them for the Support of the Roof.

We have ſaid that the Front ſhould be as nearly as may be all Glaſs, conſequently theſe Piers ſhould be as narrow as poſſible. They would require more Breadth if any Rooms were to be carried up over the Greenhouſe, but we have declared againſt that Practice: therefore ſlight Piers will anſwer, and theſe ſhould be thin'd off obliquely from the Front inwards. In this Caſe they will be of very little Diſadvantage, and they will give an Air of Strength to the Building.

Every Part of the Houſe muſt be contrived for Warmth, and for Defence againſt the Froſts. In the firſt Place, the Floor ſhould be raiſed fifteen Inches above the Ground, that no Damps may come that Way; and the next Care muſt be of the Saſhes. They ſhould be hung in firm Grooves of ſeaſoned Wood-work; and their Frames muſt be ſolid and well jointed. They muſt be wrought ſo as to move eaſy, and to remain very firm in their Places: no Wind ſhould be able to ſhake them: and they muſt be ſecured by Sand Bags wherever the Air could get in.

The Gardener muſt have it in his Power to let in Air in any Manner and Degree he pleaſes, but it muſt be thoroughly kept out, except when let in by his Choice.

The Saſhes being ſecured, the Floor, Walls, and Roof muſt be conſidered in the ſame careful Light; all muſt be ſound, firm, and ſolid; and near the Back in the Wall of the Weſt End, there muſt be made a very narrow Door-way, which ſhould have a double Door, that the Gardener may let himſelf in when the Weather is ſevere, without admitting in much Wind.

The Walls muſt not be built of the common Place Bricks, but a Price allowed for the good grey Stocks, and the Mortar muſt be well wrought, and the Work well done. Two Bricks and a half ought to be the Thickneſs of the Back Wall, and two Bricks that of the Ends.

The Floor is beſt laid with paving Tiles; and the Roof ſhould be ſlated: the Work all well done, and the Materials ſound and good. The Addition of Expence in this is trifling, and the Advantage very great. There is no Security in any Thickneſs of Walls when the Materials are looſe and ſpungy, for the Froſt will get through them.

As there will be Room under the Floor, it will be adviſeable to carry a Flue quite thro' it with two Returns. The Fire Place ſhould be in one of thoſe Sheds we have directed to be made behind, and that neareſt the Weſt End will be beſt; from this it ſhould be carried to the Front, and along to the Eaſt End, and thence to the Back again; where Funnels muſt be raiſed to carry off the Smoak.

We have ſaid that it is very ſeldom there will be Occaſion to make a Fire in theſe; and it ſhould never be done except when neceſſary.

The Walls, and Floor, and Roof being conſtructed with the Care we direct, it will never be wanted in common Winters: but unleſs there be ſuch a Proviſion againſt ſuch as are very ſevere, the greateſt Part of the Plants may be loſt.

CHAP. II.

Of finiſhing the GREENHOUSE.

THE double Door, which we have directed to be made for the Entrance into the Greenhouſe at Times when it is not proper to open any of the Glaſſes in Front, muſt be made ſo as to ſhut perfectly cloſe, and turn eaſy on the Hinges. And the Glaſſes in Front muſt have Shutters, in the Conſtruction of which the Carpenter muſt ſhew all his Skill.

We have directed the Piers to be ſloped away on each Side inwards, and this will give on each Side of the Saſh an oblique Space to receive the half of the Shutter. Let the Carpenter underſtand, that the Corners of the Pier were cut off to prevent their interpoſing, and ſhading the Plants from the Sun; and let him take Care not to do the ſame Miſchief by the Edges of the Shutters.

They muſt be made to fold in a Compaſs ſomewhat narrower than the Flat of the Brick Work; and they muſt be ſo hinged as to fall cloſe, and framed to prevent warping. They muſt be ſo made as to meet very cloſe in Front, and no Cracks muſt be permitted between the Pannels.

The beſt Way to know that they are ſecure, is to ſhut up the whole in a bright Day: where Light can get in, there Cold can come alſo; and there is no Way to be ſecure, but by ſhutting out that.

This is an eſſential Point; for when the Shutters are contrived ſo well as this, they will ſave all farther Trouble of defending the Plants in common Weather in our Winters.

When it is worſe Recourſe muſt be had to lighting up ſome Candles in the Greenhouſe, while the Shutters are kept cloſe; or if this does not anſwer the Purpoſe, a Dutch Fire of a couple of Turf may be kept mouldering without Smoak or any offenſive Conſequence from Day to Day ſo long as it continues. If this does not prove ſufficient, the Flues will always anſwer. They ſhould never be made uſe of, but when theſe gentle Means are found ineffectual; and then no longer than the Continuance of the ſevere Weather; with this Regulation, and in this careful Uſe, the Flues will be of the greateſt Service to the Greenhouſe; a Shilling's-worth of Fuel will ſave a vaſt deal of Labour, and anſwer the Purpoſe a great deal better; for there is no End of the Trouble of ſheltering with Mats; and when all is done the Defence is very imperfect, and the Condition of the Air within is altogether uncertain: whereas in this Method, by actual Fire, 'tis ſubject to perfect

Regulations; it may be continued as long as required, and made to ceaſe with the Occaſion.

Thoſe who have not this Advantage in their Greenhouſes are to be warned againſt a common Error, which is the Uſe of Charcoal: every one knows how fatal and ſuffocating the Steam of burning Charcoal is in a cloſe Place; and no Place can be cloſer than a good Greenhouſe ſhut up in the cold Seaſon.

We have on many Occaſions obſerved how eſſential free and pure Air is to Plants; even as much as to Animals: Reaſon may therefore inform thoſe Perſons who have thought of this Method, that they muſt greatly prejudice the Plants by it; indeed I have ſeen the Effect of the Charcoal more than once, more hurtful than the Froſt would have been.

The Branches of the ſeveral Trees have grown yellow, and droop'd at their Ends; the Leaves have fallen off from the Plants; and a great many have been deſtroyed, while the Remainder have been ſo injured, that nothing but a Courſe of very good Management for the ſucceeding Year could reſtore them. Therefore thoſe who have not the Advantage of Flues under the Floor of their Greenhouſe, ſhould remember that the firſt Defence againſt the Froſt is lighting Candles ten, twelve, or more, according to the Extent of the Building: if this is inſufficient, the next is to keep up a ſmall mouldering Fire of Peat or Turf, whoſe Steam is inoffenſive; and if this be not enough, a German Stove ſhould be brought in, and placed near the Centre of the back Wall.

Thoſe who are to build them now, will find it much better to make Flues at once, than to truſt to theſe uncertain and troubleſome Methods. The Expence is not great in making them; and as to Fuel, a very little ſerves when they are wanted; and this is not once in many Years.

Thus much regarding the warming of a Greenhouſe we have been to led to ſay in this Place, to ſet before the Reader in its true Light the Advantage of making Flues. Theſe ſhould be about twenty Inches deep, and eight broad; and in the Courſe we have directed for carrying them on, they will affect every Part of the Room.

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CHAP. III.

Of the Inſide of the WALLS.

WE have now raiſed our Greenhouſe from the Foundation and Floor to the Roof. The Back and Sides are ſtrong and cloſe, and the Saſhes ſecure; but there yet remains a great Article, which is the covering the inner Surface of the Walls.

Theſe are at preſent plain Brick, and it is the Cuſtom to plaiſter them in a rough Manner, or to wainſcot them cheap and coarſely. There is nothing in which a little Expence is ſo ill ſaved.

Let the Gardener underſtand that Light and Heat in the Day-time always accompany one another; and it is fit he know farther, that in order to ſend back the Light and the Heat with it in the fulleſt Manner, they ſhould fall upon a perfectly ſmooth white Surface, which reflects the moſt Light of any Colour; being indeed an Aſſemblage of them all: and that the Smoothneſs of the Surface returns them regularly. Wainſcot, though an expenſive Thing, is by no means proper, for the Heat and Moiſture will make it ſubject to warp; and this defeats the Purpoſe.

The common Plaiſtering and White-waſh are continually cracking and peeling; the Surface is always irregular at firſt, and it ſoon decays. 'Tis alſo diſagreeable in that it rubs off upon the Cloaths of thoſe who go in; and upon the Plants. It is too much liable like the Wainſcot to the Effect of Heat and Moiſture; and the Vapour of it is hurtful to the Plants.

Let the Proprietor allow the Expence of Stucco to the whole inner Surface of the Walls and Cieling, and let the Plaiſterer be directed to work it with a perfect ſmooth Surface. When this is well dry'd, let it be painted with the brighteſt white that can be laid on, and it will thus be finiſhed for a great while. When the Smell is once over, it will return no more. The whole Surface will reflect the Light in a perfect and uniform Manner; and the Plants will in this Reſpect have all poſſible Advantage.

We are not of the Opinion of thoſe who fancy, that the painting of a Greenhouſe with a dark Colour will make the Leaves fall off from all the Plants; but the Benefit of this Method of giving a true white Surface is certain; nor is any Thing ſo agreeable to the general Uſe of the Place.

The Plants are to be diſpoſed in this Greenhouſe ſo as to form a Kind of riſing Surface from the Front to the back; and they are to be placed at ſome ſmall Diſtance from one another: this Method of diſpoſing them we have given in a preceding Number, where we ſpoke of taking in the Plants at Autumn; but this is one Conſideration in favour of that pure and perfect white we direct for the inner Surface. The Trees and Plants, as ſo placed, make one Maſs of green, and for that Reaſon they are not ſeen diſtinctly.

On the having a clear and proper View of each the Beauty of the Arrangement depends; nothing favours this like the pure white behind: it ſerves as a Ground to throw out the ſeveral Objects, and the Space between Leaf and Leaf being thus marked exactly, the Form of all is ſeen.

Thus may a Greenhouſe be compleatly finiſhed, but there will ſtill be ſomething wanting for thoſe whoſe Curioſity extends to the full Bounds, and who raiſe all the Kind that can be preſerved in this Way.

Among what we claſs as Greenhouſe Plants, ſome are of a more hardy, and others of a more tender Texture: and there is alſo a great Difference in Nature between the common Shrubs and herbaceous Kinds, and thoſe we call ſucculent.

It will be proper to preſerve theſe diſtinct from the Generality of the Greenhouſe Plants, and from each other, and this in ſeparate Buildings.

CHAP. IV.

Of the Wings of a GREENHOUSE.

IT will be proper to keep the ſucculent Plants entirely by themſelves in one Building; and the tender Kinds that will juſt live without a Stove in another: theſe may be ſmall, becauſe the Number of Plants in each Kind cannot bear any Proportion to the Generality of the others; and the Smallneſs of the Place is one great Advantage to the tender Kinds, becauſe with due Management, the Air will for that Reaſon be warmer.

Theſe two Buildings ſhould be connected to the two Ends of the Greenhouſe, and conſtructed in the ſame Manner with all that careful Attention to the keeping out cold, and all the neceſſary Regulation in the opening. Under each of theſe there ſhould be Flues, as under the principal Greenhouſe; and they muſt be built ſtrait in a Line with it, only thrown a little back.

This will give the Air of a regular Building to the Greenhouſe, making it conſiſt of the Centre and two Wings: and will provide for every Thing that can be required under that Head.

It has been adviſed by ſome to bring the two Wings forward in an obtuſe Angle, and by that Means to encloſe, in a Manner, a Piece of the Ground; but this breaks in upon the Uniformity of the Garden, takes off the Beauty of the Building, and has no real Advantage. A Baſon of a Yard ſquare in the Centre of ſuch a Piece, and a Parcel of Flower Borders about it, are very much beneath the Taſte of modern Gardening; nor is there any thing we deſire ſo much as Freedom.

Theſe are Cautions to the Gardener that he be not miſled by antiquated Inſtructors. In the Way we mention all will be free and open, and all beautiful. The Greenhouſe, conſiſting of the main Body, and Wings in the ſame Direction, will be a beautiful Object from other Parts of the Garden, and every Advantage of Culture will be ſecured to the Plants.

The main Building will hold the Generality in more perfect Order, becauſe as ſo many will be removed into the Wings, thoſe which remain will ſtand more free; and the Smallneſs of the Wings will keep the tender Kinds the better: when a Fire is needed it muſt be very little; and there are few Winters which require it. There need be no particular Directions laid down for the Conſtruction of the Flues. They are to be the ſame with the larger in all but Size.

One Caution it may be very uſeful to add for thoſe who have Greenhouſes already, and who find the Numher of Plants increaſe upon them, and that they want Room. The beſt Way of enlarging the Houſe is by adding two ſuch Wings; and under theſe there ſhould be Flues, though there may be none under the main Building; by this Management the tendereſt of the Plants may be removed into one Wing, and the ſucculent Tribe into the other as we directed; and they will be ſecured at the ſame Time that Room is made in the Greenhouſe for the reſt, and for the Reception of new Plants.

EDEN:

A
COMPLEAT BODY of GARDENING.

NUMBER LIV.
For the laſt Week of *SEPTEMBER.*

SECTION I.
FLORA, *or the* PLEASURE-GARDEN.

CHAP. I.
Flowers and Curious Plants now in their Perfection.

1. LATE BULBIFEROUS LILLY.

Sept.

Pl. 54. Fig. 1.

THE Gardener is not unacquainted with the Beauty of the *bulbiferous Lilly*, nor with the ſingular Method taken by Nature for its Propagation, whence it obtained that Name: this which we here propoſe to him, poſſeſſes that peculiar Quality in a degree ſuperior to the common Kind; and is diſtinguiſhed farther by its ſtrong Colour, and late flowering.

The Student in Botany is to know that, as this is no more than a ſeedling Variety of the common *bulbiferous Lilly*; ſo that Plant in its moſt uſual State is to be referred to the common *Orange Lilly*, being only an Accident of Nature in the Growth of that. Thus Varieties, before they are conſidered under their ſeparate Parts, are to be reduced to the proper original Species; and this is Botany.

In this State wherein we deſcribe the Plant, the *Dutch*, to whoſe Labours we owe it, call it *Lilium bulbiferum ſerotinum:* the late bulbiferous Lilly; in the more uſual Form Authors name it *Lilium bulbiferum latifolium*; and in the original State without the Bulbs, *Lilium purpuro-croceum.*

The Plant is one of thoſe in which afford the Gardener great Room for his Operations; for there is ſcarce any more fruitful in Varieties.

C. BAUHINE, who takes the Lead among the Botaniſts of the laſt Age, mentions beſide the broad, which is the common, a narrow leaved bulbiferous Lilly, a Dwarf, and a hoary Kind. He alſo enumerates as diſtinct Species of the Kind without Bulbs, a ſmaller, and one with a double Flower. He has therefore from this one Plant, the *Orange Lilly*, made eight; and too many have followed him: for nothing is ſo readily received as Error.

Sept.

LINNÆUS refers all theſe to the one original Head, which he calls *Lilium foliis ſparſis corollis campanulatis erectis intus ſcabris:* the ſcattered leaved Lilly, with bell-ſhaped upright Flowers, rough within.

The Root is large, bulbous, but compoſed of numerous looſe Scales; white and juicy.

The Stalk is firm, thick, upright, a Yard high, frequently a little flatted, ſtriated, and of a pale green, tinged variouſly with yellow, brown or purple.

The Leaves ſtand irregularly upon it, and are numerous: they are oblong, moderately broad, undivided at the Edges, and ſharp pointed; of a deep green Colour, often tinged with brown, and marked with ſtrong Ribs lengthwiſe.

The Flowers are very large and beautiful; they crown the Stalk two or more together, and they are wide expanded, and of a deep Crimſon, mixed with a Tinge of Orange: the riſing Spots on the Inſide of the Petals are of a deep Blood Colour, and there is a Richneſs in the whole Flower exceeding very much the other Orange Lillies.

The Form of the Flower is that of the common Lilly, it riſes without any Cup from the Head of the Footſtalk, and is compoſed of ſix long and large Petals, which unite at the Bottom in a ſmall campanulated Baſe, and at the Extremities they are thick and fleſhy.

In the Centre ſtand ſix Filaments with large oblong Buttons, and in the Midſt of them a ſingle Style. This is terminated by a thick triangular Head; and riſes from an oblong Rudiment of a Seed-veſſel marked with ſix Ridges. This afterwards ripens into a large Seed-veſſel of the ſame Form, large, and formed of three Valves, with three Cells loaded with Seeds in a double Series.

The ſix Filaments ſhew the Plant one of the *Hexandria* of LINNÆUS, and the ſingle Style one of the *Monogynia*.

Thus is the Plant entire and perfect as others; but there yet remains to be explained a very particular Part, or Appendage; the Bulbs, whence it obtained its Name bulbiferous: theſe are certain ſolid Lumps which appear in the Boſoms of their Leaves. Their Form is oval, or nearly ſo; their Texture looſe, and their Subſtance juicy: they have no Footſtalks, but adhere to the main Stem of the Plant by their Baſe, juſt where the Leaf alſo adheres; and their Colour is green, tinged like the Stalk and Leaves, occaſionally with yellow, brown or red: they have an Aſpect different from what is ſeen in Nature, in the common Courſe of Vegetation; and there is nothing more worth the ſtrict Enquiry both of the Gardener and Botaniſt, than their Purpoſe and Formation.

To underſtand their Nature, let the Student conſider and ſee that he rightly know thoſe Parts of other Plants to which they have Reſemblance. They contain a Plant in Miniature, as the Bud of a Tree does the ſeveral Parts which it ſhews when unfolded in Vegetation: and they have not done amiſs who gave them the Name of Bulbs; for although placed upon a different Part of the Plant, they have the ſame Nature, Conſtruction, and Properties.

The Bulb is a compact Subſtance including the Embryo Plant, and defending it from Injuries till the Time of its growing up.

The Bud upon a Tree in the ſame Manner contains and defends a young Plant, or at leaſt all except the Root; and is formed for the ſame Purpoſe, and in the ſame Manner.

LINNÆUS is ſo ſenſible of this, that he calls the Bulbs of Plants, and the Buds of Trees by the ſame Name *Hybernaculum*, and diſtinguiſhes them only by the Part of the Plant or Tree to which they adhere; the Bulb being fixed to the lower Part of the Stem, and the Bud to the upper; or to the Extremities of the Branches.

As only a certain Number of Plants have Bulbs, ſo only a certain Number of Trees have theſe regular Buds. The black Alder, the Alaternus, and many others utterly want them; and, in general, they are not found on Plants in extream hot or extream cold Countries.

As the Buds of Trees are compoſed of various Subſtances, Films, Scales, Footſtalks, and Rudiments of Leaves: the Bulbs have alſo their various Structure, ſome being compoſed of Scales, as the Lillies; ſome of Coats, as the Onion; and others ſolid, as the Tulip.

Theſe Tubercles upon the Stalk of the Plant now under Conſideration, are true Bulbs of the ſolid Kind: they have the Rudiments of Scales about them; but theſe do not ſhew themſelves till long after: as the outer Coats of the ſolid Bulbs are not ſeen till they are full grown. They are therefore Bulbs above Ground; or if the Botaniſt ſo pleaſe to call them, Buds from the Stem.

We have ſhewn how little Bulbs and Buds differ from one another; and there is no more Difference between theſe and the reſt. If they are compared with the bulbous Roots, they differ only in that their Subſtance is more compact; that is, they rather reſemble the central Part than the whole Bulb. If compared on the other hand with the Buds of Trees, they differ in nothing but that as thoſe Buds are fixed to their Place, and nouriſhed by the general Root of the Tree, theſe fall off, and take root of themſelves.

Although this Proceſs of Nature for the Encreaſe of Plants is not common; neither is it peculiar to this ſingle Plant: the bulbiferous Saxifrage is well known; and differs from the common Saxifrage in nothing but that it has theſe Bulbs in the Boſoms of the Leaves: it is an Inſtance very parallel, for it ſhews this peculiar Proviſion of Nature may be given without altering the Species. The *Toothwort*, or *Dentaria Heptaphyllos*, is another Inſtance of the ſame Kind; and there are others.

Theſe Bulbs appear with the Leaves, and ſwell and obtain ſoon after their due Bigneſs: after this they drop off, and taking root, produce new Plants; in the ſame Manner as Seeds would do; but in a much quicker Manner.

In the younger Plants of this Lilly we find theſe Bulbs all the way up the Stalk, ſcarce any Leaf from the Bottom to the Top being without them: but in the older which have come to the full Strength of flowering, they are fewer, and they appear principally, if not ſolely, in the Diviſion of the Stalk, at the Top, for flowering.

This ſhews, in ſome degree, the Intention of Nature in their Productions. The *Orange Lilly* riſes ſlow from Seed to flowering: in all this Time, according to the common Courſe of Nature, no Step could be taken toward the Encreaſe of the Plant; but all this while there are theſe Bulbs in the Boſoms of the Leaves: they are ſlight the firſt Year or two, and imperfect; but afterwards they grow ſtrong, and are fit for the Propagation of the Plant.

They continue to be produced in Abundance till the Plant has come to the full Strength of flowering; but after that they grow from Time to Time leſs numerous, till upon a ſtrong Stem there will not be more than four or five.

Some who affected to underſtand Nature better than their Attention would reach, have ſaid that the Seeds of this Lilly would not produce the

Sept. Plant. They fancy'd this, upon the Principle of Nature's doing nothing in vain; and they ſuppoſed theſe Bulbs muſt be uſeleſs if the Seeds grew.

The Matter would have been much better explained by a longer Obſervation: they would have found the Purpoſe of Nature in their Production, was to ſupply the Place of Seeds during the Growth of the Plant; and that although the Principle of their Production continued afterwards, yet it became very limited in Quantity, from the Time the Growth was ſufficient for the ripening of Seeds.

Culture of this LILLY.

It is a Native of the warmer Parts of *Europe*; but it bears without Hazard the open Air, and open Ground in our Gardens; and requires no Compoſt: for nothing ſuits it better than the common Mould.

There are in the Gardener's Choice three Methods of cultivating or raiſing the Plant; the firſt by Off-ſets from the Root, the ſecond by Seeds, and the laſt by theſe Bulbs produced in the Boſoms of the Leaves.

If we wanted Varieties, we ſhould propoſe the Method by Seeds, for that is the true Source of them; but the Flower is naturally ſo beautiful, that unleſs we wiſhed to change for the worſe, one could not ſeek any Thing of that Kind. Sept. Therefore this Method, which is ſlow and tedious, and productive of no particular Good, is to be rejected.

The Propagation by Off-ſets is eaſy, but they weaken the main Plant; for it muſt ſtand two or three Years in order to produce any Quantity, and this never fails to impair the Beauty of the Flower.

For theſe Reaſons the Bulbs which Nature produces in the Boſoms of the Leaves, are preferable to any other Method of Propagation. They are to be taken off when perfectly ripe, and they will flower in full Luſtre the ſecond Year.

The Soil is to be the common Garden Mould. The Bulbs are to be planted at a Foot Diſtance, and covered a Quarter of an Inch; and not to be removed any more till after flowering.

They will require no Care beſide the common Articles of weeding and watering, and when they have flowered they ſhould be taken up. About the latter End of *September* is the beſt Time; the Bed ſhould be new dug, the Roots cleaned from their Off-ſets, and then planted again at the ſame Diſtance.

They will thus flower in perfect Beauty from Year to Year, and they will always produce Abundance of new Bulbs from the young Plants, ſo that ſowing is altogether needleſs.

2. SCARLET MUNTINGIA.

Pl. 54. Fig. 2. The Curious in botanical Reſearches have been ſome Time acquainted with the white fruited *Muntingia*; though till the great Reformer of the Science, LINNÆUS, they did not know it by that, or by any other diſtinct Name. PLUMIER had indeed called it ſo; but his Authority, however great his real Merit, was not ſufficient to eſtabliſh it; and the World called it by the firſt rude Denomination, *Calabura*. This is yet more new, nor is the Difference in Colour all, the Leaves are as different.

HERMAN retaining the old Name, *Calabura*, adds, *rubra foliis laurinis*: for the Diſtinction of this Species: Bay leaved *Calabura* with red Fruit.

COMMELINE, though much amiſs, refers it to the *Meſpilus*; adding, to diſtinguiſh it from the numerous others, *Americana laurifolia glabra fructu rubro mucilaginoſo*: ſmooth Bay-leaved American Meſpilus with red mucilaginous Fruit.

The Characters refer it to the *Muntingia* of LINNÆUS; and as the white Kind has but one Flower on each Footſtalk, and this ſeveral, we may add as the Diſtinction, *pedunculis multifloris*: many flowered Muntingia. The Colour of the Fruit, though an obvious, is not a ſcientifick Character.

It is a large and ſpreading Tree of irregular Growth: the Branches numerous, and crooked; and the young Shoots rediſh.

The Leaves are large and beautiful, oblong, broad, and undivided; their Colour on the upper Side is a deep, and on the under a paler green.

The Flowers are numerous, large, and of a delicate pale blue; they ſtand in Cluſters at the Extremities of the Branches, upon divided Footſtalks, and make a very glorious Figure. The Fruit which follows is no leſs beautiful, its Colour a fine ſcarlet.

The Cup of the Flower is of one Piece, hollowed at the Baſe, and divided into three, four, or five Segments at the Edge.

The Flower is compoſed of five Petals, and theſe have long narrow Baſes.

In the Centre ſtand numerous Filaments, with roundiſh Buttons: they riſe from the Receptacle of the Flower, and ſurround a rounded Rudiment, which is crowned with a pentangular Head, without a Style.

The Fruit is round, and marked with the five Diviſions of the Head, and contains many ſmall roundiſh Seeds.

The Number and Place of the Filaments ſhew the Tree one of the *Polyandria* of LINNÆUS; and the ſingle Head, that it is one of the *Monogynia*.

Culture of this MUNTINGIA.

It is a Native of the warmer Parts of *America*, and with us will not ſucceed well out of a Stove.

The Soil muſt be one of the light, and not over rich

Sept. rich Compoſts, and it muſt be raiſed from the Seeds ſown in a Pot, and brought to ſhoot in a Bark-bed.

The young Plants when three Inches high muſt be removed into ſeparate Pots; taking them up with great Care, and with as much of the original Mould as will hang about them; and watered carefully.

Theſe Pots muſt be again ſet up to the Rim in Bark, and the Glaſſes ſhaded till they have taken good Root in the new Mould: after this they muſt at Times be allowed a little Air; and when of a due Size, the fineſt Plants muſt be taken into the Stove.

3. NARROW LEAVED OTHONNA.

Pl. 54. Fig. 3. This is a ſingular and pretty Shrub; low, branched, full of Leaves, and at the Seaſon overſpread with Flowers. The Antients were not acquainted with it; nor have thoſe Writers who firſt named the Plant, called it by this Name.

We have before acquainted the young Botaniſt, that LINNÆUS ſeparated from among that confuſed Number of Plants, the Authors before him had called *Jacobæa*, ſeveral which agreed in many peculiar Characters under the Name *Othonna*; this Plant is one of them. The moſt ſtriking Diſtinction is, that the Cup which in the proper *Jacobæa* is ſcaly, in this Plant is formed of one Leaf, and only divided by ſeveral Indentings at the Edge.

It has been with great Juſtice, that LINNÆUS diſperſed the Plants joined by leſs accurate Writers, under the Name *Jacobæa*, into ſeveral Genera; but they all preſerve that ſcaly Cup, except thoſe ranged by him as *Othonna's*.

COMMELINE has called this *Jacobæa Africana fruteſcens lavendulæ folio latiore:* ſhrubby African Ragwort, with a ſomewhat broad Lavender Leaf. The Characters very diſtinctly ſhew it an *Othonna*, and its proper Diſtinction is, *foliis linearibus:* Linear leaved Othonna.

The Root is rediſh, divided, hung with innumerable Fibres, and ſpreading.

The main Stem is thick, woody, and covered with a pale brown Bark. The Branches are pale, and the young Shoots green.

The Leaves are numerous, and placed irregularly: they are long, narrow, ſharp pointed, and of a pale green; a little hoary, and of a firm Subſtance.

The Flowers are numerous and yellow: they ſtand in irregular broad Tufts at the Extremities of the Branches, and are of the compoſite radiated Kind.

The Cup, as is ſingular to the *Othonna*, is ſimple, compoſed of one Piece, hollow at the Baſe, and divided into five Segments at the Rim.

The Diſk of the Flower is compoſed of tubular Floſcules: theſe are ſhort, and divided at the Rim into five Segments; and in each there are five ſhort Filaments with convergent Buttons ſurrounding a ſingle Style.

The Rays are about eight, but the Number is not certain; they are Female Flowers. Their Form is long and lanceolate, and they are cut into three Parts at the End. They have at their Baſe only the Rudiment of a Seed, with a ſingle Style terminated by a large ſplit Head.

The Seeds ſtand naked in the Cup, and they are only a ſingle Series, or Circle, for the Female Flowers alone bring any to Perfection.

From this the Claſs and Place of the Plant will be eaſily known: the convergent Buttons declare it one of the *Syngeneſia*; and the Seeds ripening only from the Rays, or Female Flowers, ſhew it to be one of the *Polygamia neceſſaria*.

The Impregnation of the Female Flowers from the Buttons of the tubular Floſcules, is ſuperfluous, when thoſe Floſcules ripen Seeds themſelves; but in this Caſe, if there were not that Proviſion, there would be no ripe Seeds.

4. OVAL LEAVED CORDIA.

Pl. 54. Fig. 4. The medical Reader has been accuſtomed to hear of this Tree under another Name: it bears the Fruit once in frequent Uſe called *Sebeſten*; and has thence been uſually called the *Sebeſten*, and the manured *Sebeſten* Tree; *Sebeſtena*, and *Sebeſtina Domeſtica*, in Diſtinction from the wild.

C. BAUHINE very properly joins theſe imaginary diſtinct Species under one Head, and calls the Tree *Sebeſtena ſylveſtris & domeſtica:* the wild and Garden Sebeſten. COMMELINE calls it *Sebeſtena domeſtica ſive myxa:* the Garden Sebeſten, or Myxa; and in the *Hortus Malabaricus*, it is called *Vidi maram.* LINNÆUS refers it to his Genus *Cordia*; and adds as the Diſtinction of the Species, *foliis ſubovatis ſerrato dentatis:* Cordia with oval dentated Leaves.

It is a large Tree of irregular Growth, branched, ſpreading, and full of Leaves.

The Bark of the Trunk is rough and brown; on the Branches it is paler; and on the young Shoots green.

The Leaves are very beautiful; their Form is nearly oval; their Colour on the upper Side a deep green, and on the under paler; and they are dented at the Edges, and pointed; the Ribs ſink deep, and the whole Surface is by that rendered ſomewhat uneven.

The Flowers are numerous, ſmall and white; they grow in little Cluſters at the Extremities of the Branches, and are ſucceeded by a kind of dry Berry

Sept. Berry of an oval Form, pointed, and covered by the Cup of the Flower.

This Cup is hollow, formed of one Piece, and terminated by three Points at the Verge.

The Flower is formed of one Petal, and is narrow at the Baſe, and broader all the way to the Rim. The tubular Part is of the Length of the Cup: the Rim is cut into five obtuſe Segments.

The Filaments are five, and they are ſmaller to the Top; their Buttons are long and thin. The Style is of the Length of the Filaments, ſingle toward the Bottom, but ſplit at the Top; and each Diviſion is again ſplit into two Parts, all crowned with round Heads. This ſingular Style riſes from the Rudiment of the Fruit, and fades ſoon, but the Cup remains.

The five Filaments declare the Plant to be one of the *Pentandria* of LINNÆUS; and the Style being ſingle at the Baſe, LINNÆUS refers it notwithſtanding, the ſingular Diviſion of the upper Part, to the *Monogynia*. Sept.

Culture of this CORDIA.

It is a Native of the Eaſt, and requires the Heat of a Bark-bed to raiſe, and of the Stove to keep it in Perfection. It will live under leſs Management, but not thrive as when the Air is ſuited to that of its natural Climate, which is the Eaſt; *Egypt* and *India*.

The Method of raiſing it is from the Fruit, which ſhould be obtained as freſh as poſſible, and ſown in a Pot of light Compoſt. This muſt be ſet in a Bark-bed to the Rim; and when the Plants appear, they muſt be treated as we have directed for the others. They muſt be removed into ſeparate Pots, watered, ſhaded, and by degrees habituated to the Air in the Middle of the Day, and then placed with the other tender Plants to take their Chance.

5. LATE POMPONIAN MARTAGON.

Pl. 54. Fig. 5. The peculiar Variety of the *bulbiferous Lilly*, which we have deſcribed firſt in this Number, ſtands as an Inſtance that not only the Colouring of a Flower may be altered in a ſeedling Variety, but the Seaſon of blowing. This *Martagon* confirms that Doctrine: it differs in nothing from the common early *Pomponian Martagon*, but that the Colour of the Flower is a higher ſcarlet, and the Time of flowering later.

All the Writers on Botany have named the Plant in its uſual State: they call it, *Lilium Martagon anguſtifolium*. CLUSIUS, *Lilium rubrum minus*; and C. BAUHINE, *Lilium floribus reflexis anguſtifolium*: the narrow leaved Lilly, with reflex Flowers.

The Student is to be told, that the graſſy leaved Lilly, and the ſcarlet narrow leaved Lilly, of the ſame Author, are only Varieties of this Plant; and that the latter of theſe more than any other, reſembles the preſent Kind. Our Gardener knows the *Martagons* are all properly Lillies.

LINNÆUS refers this to the Number, and adds as the Diſtinction of the Species, *foliis ſparſis ſubulatis, floribus reflexis corollis revolutis*: Lilly with ſcattered ſubulated Leaves, and with hanging Flowers, whoſe Segments turn up.

The Root is very ſingular in this Species, it is not compoſed of thick Scales as in the other Lillies, but coated as an Onion; this GMELIN very juſtly adds to its Character.

The Stalk is ſimple, firm, upright, two Foot and a half high, round, ſtriated, and of a pale green, tinged with brown or yellow.

The Leaves are extreamly numerous, and they ſtand irregularly: they are of a moderate Length, narrow, and in ſome degree three ſquare; ſharp pointed, and of a ſtrong and lively green.

The Flowers are very numerous and beautiful: they crown the Stalk, and riſe alſo from all the Boſoms of the upper Leaves. They have long Footſtalks, from which they hang drooping; their Form is that of the common *Martagon*, but their Colour a high and perfect ſcarlet ſpotted with black.

Each Flower is compoſed of ſix long Petals which unite at the Baſe, and turn up at the Ends, and at the Bottom of each there is a remarkable Line, which is the Nectarium.

The Filaments are ſix; they are ſhorter than the Petals, and they have oblong Buttons.

The Style is ſingle, and its Head triangular and thick; and the Seed-veſſel is oblong, and marked with ſix Furrows.

The ſix Filaments and ſingle Style ſhew it one of the *Hexandria Monogynia*.

Culture of this MARTAGON.

The Seeds of the early or common *Pomponian Martagon* raiſe this; and the ſame Method muſt be taken in its Culture. It is a Native of the warmer Parts of *Europe*, but thrives perfectly well in the open Ground in our Gardens. A warm Spot muſt be choſen for it, and the Roots muſt be planted deep to defend them from the Severity of our Froſts, and they muſt not have a moiſt or too rich Soil.

The beſt Compoſt for them is rich Paſture Earth, with a little Wood-pile Mould, and rotted Cow Dung. This ſhould be mixed up in Spring, and it will be ready to receive the Seeds in Autumn.

Theſe muſt be ſaved from ſtrong healthy Plants, and dried on a papered Shelf with all the Care we have directed for other Kinds. In Autumn a Bed muſt be made up in the Seminary with this Compoſt, chuſing a Spot that is open to the South Eaſt, and defended from all the cold Quarters.

Sept. The Surface of this Bed muſt be raked level, and the Seeds ſcattered over it with an even hand. They ſhould be ſown thick, for many fail.

When the Plants come up they muſt be thin'd and weeded; and at Autumn, when the Leaves decay, half an Inch of freſh Mould muſt be ſifted over the whole Bed.

In this Manner they are to be kept one Year more, and it will then be Time to remove them.

A Bed muſt be made up with the ſame Compoſt, in ſome ſheltered Part of the Garden; and the Roots, taken up ſoon after the Leaves have faded, muſt be there planted at ten Inches Diſtance, and covered with two Inches of Mould. Here they are to ſtand till they flower, ſifting over them half an Inch of more Mould every Autumn, and a Quarter of an Inch every Spring.

There will be found a great deal of Variety among the Flowers; ſome will be of a darker, ſome of a pale Tinct; ſome perfect red, and others yellowiſh.

The fineſt muſt be marked, and the reſt, when the Leaves are decayed, muſt be taken up, and planted in other Places. Sept.

The fine Flowers which are left will have good Room by this, and they muſt at the Approach of Winter be covered with another Inch of the ſame Mould. Their proper Place in the Earth is about five Inches under the Surface, they never fail to ſhoot ſtrong through this; and the burying them thus is their beſt Defence during the Winter.

The next Year they will ſhew their Flowers in Perfection: and from this Time they are to be treated as others of the ſame Kind. They ſhould be taken up every Year as ſoon as the Stalks and Leaves are decayed, and planted again in a freſh Bed of the ſame Soil: they muſt be ſheltered from the North Winds, and open to the Morning Sun, but defended from that of Noon-day; and they will thus produce Abundance of Flowers extreamly elegant, and very laſting.

6. BROAD LEAVED STAR HYACINTH.

Pl. 54. Fig. 6. We have before had occaſion to acquaint the Gardener, that the Plants univerſally known by the Name *ſtarry Hyacinths*, are by no means of the proper Hyacinth Kind, but Species of the *Scilla.*

This Name has been ſo long uſed ſolely for the medicinal Squill, that there appears a Strangeneſs in applying it to a Garden Flower, but there is the Authority of LINNÆUS for it; and what is much more, the Warrant of Nature.

This is a Kind diſtinct from the others we have named, and the Writers on Flowers have all perceived it: they have called it *Hyacinthus ſtellaris Liliifoliis.* C. BAUHINE names it, *Hyacinthus ſtellaris folio & radice Lilii*; and others, *Hyacinthus latifolius ſtellaris.* LINNÆUS diſtinguiſhes it by the Root, which is altogether unlike the others. He calls it *Scilla radice ſquammata:* the ſcaly rooted Scilla.

The Root is rounded, large, and white, and is compoſed of Scales in the Manner of the Lilly Root, but thicker and ſhorter.

The Leaves are numerous, broad, oblong, obtuſe, and of a ſtrong green; the middle Rib is pale, and ſometimes the Ends of the Leaves are tip'd with brown.

The Stalk is round, juicy, and a Foot high. There are no Leaves on it; the Colour is a pale green, tinged toward the Bottom with red, and the Top is decorated with a great Number of Flowers. Theſe are large, and of a delicate white, ſometimes tinged a little with Fleſh Colour.

They have no Cup: they riſe naked from their Footſtalks, and each is compoſed of ſix Petals which ſtand open.

In the Centre are ſix ſhort Filaments, crowned with oblong incumbent Buttons, and in the Midſt of them a ſingle Style with a ſimple Head. This riſes from a roundiſh Rudiment of a Seed-veſſel; which, as it ripens, becomes more oval, and is marked with three Furrows. It is formed of three Valves, and divided within into three Cells, in each of which are contained ſeveral roundiſh Seeds.

Culture of this HYACINTH.

It is a Native of *Spain*, and other warm Parts of *Europe*; but it will bear the open Air very well with us in a well choſen Situation. Its Culture is in all Reſpects the ſame with that of the other *ſtarry Hyacinths*, which we have given at large in a preceding Number, only that the Soil muſt be rendered more looſe and dry by mixing a good Quantity of Sand with it; and the Roots when they are taken up after flowering, ſhould be immediately planted again in a freſh Bed of the ſame kind of Soil.

In this Manner it will flouriſh in great Perfection: the Roots will preſerve the Principle of Life, if they be kept out of the Ground ſeveral Months; but I have always found they flower beſt when they are planted again as ſoon as taken up.

There will be Abundance of Off-ſets to propagate the Plant in that eaſy Way; and from Seed there will be beſide this white, which is the moſt elegant, the common Variety of blue, and of pale red Flowers.

1
Late bulbiferous Lilly
2
Scarlet Muntingia
3
Narron leav'd Othonna
4
Oval leav'd Cordia
5
Late Pomponian Martagon
6
Broad leav'd Star Hyacinth

Ed. Alton Sculp.

SECT. II.

Of the Conſtruction of STOVES.

THE Conſtruction of the Greenhouſe we have given in the preceding Number: that of the Stove naturally follows. This is an Article much leſs underſtood, and conſequently much worſe practiſed than the other.

Thoſe who have ſucceeded beſt make it a Point to keep their Knowledge to themſelves; and from this, as well as the reſerved Turn many have of late taken who have curious Plants, I fear the ſame falſe Taſte is growing in Botany, that has long diſgraced the Study of Medals: this is a Deſire that none ſhould poſſeſs thoſe valued Productions but themſelves. What theſe preſerve ſecret it is our Purpoſe to diſcloſe: he who has a true Senſe of the Study will no more keep ſecret any Improvement in it; than the Phyſician Honour a new Remedy.

Whatever we have obſerved that is uſeful in this great Article of curious Gardening, we ſhall deliver freely: the Reader has a general Idea of the Stove already from what we have ſaid treating of the Pine-apple and ſome other Kinds: and we here propoſe their ſeveral Conſtructions; which that will lead him the more readily to underſtand.

Plants may be arranged in reſpect of their Hardineſs under three general Kinds, 1. Thoſe which bear the open Air in our Climate all the Year. 2. Thoſe which require Shelter in Winter, but uſually no artificial Heat; and 3. Thoſe that require Shelter and artificial Heat. The firſt are the hardy, the ſecond the Greenhouſe, and the third the Stove Plants. Each Claſs is again ſubject to many Subdiviſions, for the Degrees of Tenderneſs are innumerable. This we have ſhewn in the other Kinds, and we now come to examine it practically in regard of thoſe called Stove Plants, from the abſolute Neceſſity there is of artificial Heat to keep them in this Climate.

Theſe, acccording to their Nature and original Climate, require various Degrees of that Heat, but all of them a Temperature of the Air, which cannot be maintained otherwiſe than by this Aſſiſtance of actual Fire.

For all theſe Stoves are to be erected, and there ſhould be alſo Beds covered with Glaſs, and aſſiſted in the ſame Manner for the raiſing of them. One Building may anſwer the Purpoſe of theſe ſeveral Stoves, and it will be better that the ſeparated Degrees of Heat, neceſſary for diſtinct Sets of Plants, ſhould be kept up in Diviſions of the ſame Building, than in diſtinct Edifices.

This gives the general Idea of the Conſtruction of Stoves. There are to be Buildings; or rather there is to be a Building glazed in Front, and expoſed to the South in the Manner of the Greenhouſe: but it is to be glazed alſo at the Top, and it muſt have Fire-places and Flues in the back Wall. It muſt be divided croſswiſe into ſeveral Rooms by Glaſs Partitions, in each of which there may be preſerved a certain proportioned Degree of Heat; and at its Ends muſt be placed thoſe glazed Beds, which may be conſidered as a Kind of ſmall Stoves for the Supply of the other Parts.

This is the general Idea of the Building, in which the Plants being potted with the Compoſts proper for each Kind, are to be placed either upon a Stand in the open Room, or in a Pit of Tan in the Centre. This makes the Diſtinction between the *Dry-Stove* and the *Bark-Stove:* in each the Heat is to be regulated by a Thermometer, hung up at a Diſtance from the Fire Place in every Diviſion; and the Entrance muſt be through ſome Shed, or out of a Greenhouſe, that the cold Air may not ruſh in on opening the Door.

The Top muſt be occaſionally covered to keep out Wet, and ſometimes to defend the Plants from the too powerful Sun; and for this Purpoſe there muſt either be moveable Shutters, or the Contrivance of a coarſe Canvaſs to let down or draw up occaſionally.

The Plants will thus live in an Air ſuited to that of their natural Climate; and they muſt be refreſhed with Water at Times.

He who comprehends thus much of the general Nature and Uſe of a Stove, will eaſily enter into the Conſtruction.

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CHAP. II.

Of the BARK-STOVE.

WHoever has his Choice of the two Kinds of Stove, will be eaſily brought to prefer that with Bark to the dry, from the Conſideration of their natural Difference. There is a Harſhneſs in the dry Heat, which is altogether unnatural to Plants; they may bear an equal Degree in their native Climate, becauſe there they have full Ground for the Roots to ſpread themſelves, but with us they have the Diſadvantage of being circumſcribed within the very narrow Limits of a Pot; and the extreme Fibres ſoon dry. The Subſtance of the Pot quickly acquires too much Heat, and the Mould becomes dry and parched about the Bottom and Sides where the tender Fibres run. On the contrary, when the Bark Stove is uſed, the Pots are conſtantly kept in it; and as there never fails to be Moiſture there, the Sides of the Pots will not be dry, and conſequently the Mould will not be parched in them. There will be the ſame Degree of Heat preſerved, and the Roots will by this Means be kept in a State of growing: theſe are the Reaſons for preferring the Bark Stove to the other, and it is to be conſtructed in the following Manner.

The Dimenſions are liable to no Rule, for they can only be determined by the Pleaſure of the Proprietor, and the Number of Plants he intends to raiſe, but the Proportion is ſtill within the Compaſs of Rule, and the ſeveral Parts may always be aſcertained in their Meaſures.

We ſhall upon this Plan give the Dimenſions of a large one, nothing being eaſier than to reduce the Meaſures for a ſmaller.

Firſt, Let a Part of the Ground be choſe for this Purpoſe that is perfectly dry; and let it ſtand open to the South Sun, and defended as the Greenhouſe from the cold Quarters.

On this Spot mark out the Form of the Stove intended to be divided into ſeveral Parts by croſs Partitions, or to be kept in one large and ſpacious Area.

Let the Length be eight and forty Foot, and the Breadth eighteen. Let the Foundation of the Walls be laid, and thoſe in Front be carried up one Foot above the Surface.

Let the Area within be then marked out, and divided in half (or into more Parts) a Partition of Glaſs is to be run acroſs at this Line of Diviſion; and two Pits of Bark are to be dug, one in each Diviſion; there are alſo to be two Furnaces, one of which will ſerve for each, and by this Means the Heat may be made different in the two Parts, and thoſe Plants which require moſt may be placed in one, and thoſe which require ſomewhat leſs in the other.

The Height of the Stove is to be proportioned to the Kinds of Plants, and their full Growth; in one of this Extent it may very well be twenty Foot: In this Caſe the Back Wall ſhould be fifteen Inches thick; and when it is carried up to the due Height, the Wood-work may be laid upon the Foot Wall in Front. This muſt be the Place for the receiving the Frames of the Glaſs-work, and from this are to riſe the Uprights which ſeparate the Frames one from another, and ſupport the Front of the Building. This, excepting for theſe Uprights, which are to be of ſound Timber, muſt be entirely of Glaſs.

The whole of the Wood-work muſt be made very firm; and the Saſhes in Front ſhould be ten Foot four Inches in Height.

From the Top of the Back Walls there muſt come a ſloping Roof, which muſt be terminated by a Frame of good Timber, to receive the Tops of the Glaſſes which are to be raiſed on thoſe in Front.

The Front Saſhes are to ſtand perfectly upright; and from their upper Part two Ranges of Glaſſes are to be carried ſlanting to the Frame-Piece which terminates the Roof. This is the Form of the Building; and in theſe Proportions it will allow ample Room for the Pits of Bark, and Space to walk round them; with Height for the talleſt Plants.

Every Thing muſt be made very tight and firm. The Roof muſt be ſlated, the Timber-work ſolid and ſound; and the Framing of the Saſhes muſt be performed in a Workman-like Manner, for they are to move eaſily, and yet ſhut firm.

The two Areas, divided by the Glaſs Partition, are now to be wrought for the Pits.

There muſt be a Walk left in Front, and another behind; and there muſt be Space alſo allowed for erecting the Flues in this Part. This gives the Meaſure of the two Pits, which being thus marked upon the Surface are to be dug out three Foot in Depth; and in the Meaſure being thus allotted by the Building, the Earth being clear'd away, they muſt be bricked at the Bottom, and wall'd up all round.

This being ready for the Tan, the Flues are to be conſidered; we treat of them diſtinctly, that the practical Gardener may underſtand every ſeparate Part; but in the Conſtruction of the Work they are to be carried up with the Back Wall; the Foundation of which is to be made broad enough for both; for being built at once, they will ſettle together: and the Flues are ſo nice an Article, that any Diſorder in them will deſtroy the whole.

Theſe are to riſe from the two Fire-places we allow to a Stove of this Extent; and thoſe Fire-places are to be placed one at each End of the Building, with Sheds erected over them for the Convenience of managing the Fire.

The Flues, which take their Riſe from theſe, are to be carried about ſix Lengths, one at a ſmall Diſtance over the other: they are to run along the Wall, and to come each Way within four Inches of the Glaſs Partition; but they muſt not be united one with the other, for that would prevent the Draught.

The loweſt Flue ſhould be eight and twenty Inches in the Clear, and all the others nineteen Inches. This will raiſe the whole Body of them about eleven Foot from the Level of the Floor, and that will give good Paſſage to the Smoke, and very well warm the Air of the whole Diviſion.

The Gardener will find no Difficulty in entering into theſe Proportions, or in reducing them to proper Dimenſions for the erecting a Stove for any ſmaller Number of Plants; and he has thus the whole before him.

The mechanical Part is better underſtood by the Carpenter and Bricklayer, than it can be explained in Words; but his Buſineſs is to ſee that the whole and the ſeveral Parts anſwer the Intent and Purpoſe: that the Frame-work of Wood is all ſecure and cloſe, that the Saſhes fit, and that the Flues draw well. Another Article will alſo require his ſtrict Attention; which is, that the Smoak do not get into the Houſe through any Defect in the Work: this is the niceſt Article in the Bricklayer's Work.

Sept.

There muſt be but a ſmall Thickneſs of Wall within Side the Flues, that the Heat may eaſily get into the Room; but this muſt be very well wrought, for as the Smoak has ſo many Returns and ſo crooked a Paſſage, it will be very ready to burſt through the Wall where it is ſo thin; and this would be more miſchievous to the Plants than any other Accident. For the reſt, the ſame Rules are to be obſerved in finiſhing, that we directed under the Article of the Green-houſe.

The Back Wall and the ſmall Roof, as alſo the two Ends and the Stack of Flues, ſhould be covered with Stucco, and painted white. This ſmall Roof, which extends only over the Flues and the Back Walk, ſtrengthens the Building, gives good Place for the Frame-work, and ſaves ſo much Glaſs where it would be of no Service; and this white Colour will be reflected back upon the Plants to their great Advantage; and when the Stove is ſhut up, as it muſt be in Winter during very bad Weather, it makes a very little Light anſwer the Purpoſe.

Sept.

From the back of the Roof ſhould be hung a Covering of coarſe Cloth, which will roll up or be let down by Pullies; and the ſame from the Frame of the Front Glaſſes. Both theſe may be kept drawn entirely up in good Weather; but in bad they may be let to fall down over the ſloping Top and Front, to keep off too violent Storms of Hail, and Rain; and the worſt Froſts.

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CHAP. III.

Of GLASSED BEDS.

AT the two Ends of the Stove it will be very proper to erect two Beds for the raiſing Exotics from Seed, and the giving other Plants of the tenderer Kinds ſo much of their firſt Growth, as will make them fit for the Stove. Theſe may be of a middle Kind between the abſolute Bark-bed and the Stove; or there may be ſmall Stoves which the ſame Fire may heat.

They may have ſmall upright Glaſſes in Front, or the ſloping Glaſſes at the Top may be brought down to the Foot-Wall: all this is at the Pleaſure of the Proprietor.

Their Height ſhould be ſuch as to form a regular Part of the entire Building; and the Heat they will require from the Fire of the Stove will be very little, becauſe being ſmall and cloſe, with the Help of the Fermentation of the Tan, they have a warm Air without any farther Aſſiſtance; or, as in this Deſign the Fire-places are ſituated near the two Ends of the Stove, it is eaſy to give this additional Heat.

The beſt Method is by carrying a Flue from the Fire-place of the Stove under the Floor; but this muſt be ſo made that it can in general be kept clos'd, and only opened when there is Occaſion.

In the Place of theſe ſome build Glaſs-caſes for thoſe Plants which require Shelter, during our Winter, but no additional Heat; and this is alſo a very natural and proper Appendage in regard to the Uniformity of the Building; though the Stove is of very little Uſe in this Caſe to the Plants.

As we have ſeverer Winters than ordinary ſome Years, and as theſe Buildings will be thus very near the Fireplaces of the Stove on each Hand; it will be proper to make a Flue alſo under the Floor of each of theſe, to communicate with the Fireplace, but to be kept ſtopt at all Times, unleſs when the Severity of the Weather renders it neceſſary to open it, to give ſome Check to the extraordinary Violence of the Froſt.

Theſe Buildings ſhould be made with upright Fronts, and ſloping Roofs of Glaſs, with a ſmall ſolid Roof behind, juſt as the Stoves are built, and they muſt in the ſame Manner have Cloths to let down upon them by Way of Defence in ſevere Weather; for Glaſs is but a poor Shelter in hard Winters.

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CHAP. IV.

Cautions in the building of STOVES.

THough we think lightly of thoſe who affect to tell in what Manner the Bricklayer is to execute his Buſineſs, which his meaneſt Labourer underſtands better than the beſt of theſe Directors; yet there are Cautions in ſo nice a Work, of which he muſt not take it amiſs that we remind him.

In the firſt Place. As every thing will be kept continually dry in the Stove, there muſt be great Care to prevent the Occaſions of Fire: and no Part of the Wood-work muſt be brought any where near the Fire-place.

The next Caution concerns the Bark-beds: the Dimenſions and Place of theſe we have given, and at one End they will each of them come towards the Fire-place: a great deal of Danger is to be apprehended from this, and no Care is too much to prevent it: if the Fire have too much Power upon the Bark, it will at once prevent all its good Effects, which are the Moiſture and the Fermentation: the Bark-Stove will thus be brought into the Condition of a dry one: and all the Advantages of its particular Structure loſt. But it will probably ſoon be worſe than this: the Bark, when thoroughly dry, may take Fire; and every thing be deſtroyed at once.

The Gardener underſtands that between the Brick-work of the Fire-place, and the Wall of the Pit, there is a Space anſwerable to the Walk behind, it may be dug out and left entirely hollow; turning an Arch over it for the Support of that Walk. This is the moſt ſecure Method; for the Heat will continue itſelf in a ſurprizing Manner through ſolid Subſtances.

The Glaſſes in Front being moveable, may ſerve very well for the Entrance, at ſuch Times as it may be proper to open them; but in cold Seaſons they muſt be kept ſhut; and there muſt be an Entrance into the Stove made in ſuch Manner, that the Gardener can go in without admitting much cold Air after him: for this Purpoſe the Entrance muſt either be thro' ſome ſheltered Place, or very well defended by a double Door; but the firſt Way of coming into the Stove from another Room, and not immediately out of the open Air, is vaſtly preferable.

If there be thoſe Glaſs Buildings at each End which we have juſt deſcribed, the Way will be through them; and as the Air in thoſe Buildings is always much warmer than without; there will need no more than the common Form of a Door to the Stove.

If there be not this Convenience, it will be beſt to open two Doors into the Stove, one from each of the Sheds where the Fireplaces are. As the Flues run on one Side, the Door ſhould be made on the other; and the Air being always warm in theſe Sheds by the Fire, there will be no Danger of chilling the Plants.

With reſpect to the Fuel that ſhould be uſed, the moſt familiar, natural, and ready, is common Sea-coal. And the ſmaller Kind ſhould be choſen, becauſe that will make the moſt uniform Heat.

In *Holland* they uſe Turf, becauſe it is the common Produce of the Country; and in *France* they have choſen Wood for the ſame Reaſon: let the Gardener take Care that what is the Effect of Neceſſity in theſe Places he does not follow here from Choice. With us Coal is not only the readieſt at Hand, but the eaſieſt managed, and it has the Advantage of making leſs Soot than either of the other Kinds; and of heating the Air more uniformly.

The two or three lower Flues only, in Places where Wood or Turf are burnt, have any conſiderable Heat, and the Air is therefore warmed irregularly: but in the Uſe of Coal, theſe Flues being carried up ſo high, the Air is warmed regularly all the Way up them, and conſequently all up the Houſe.

The principal Quantity of Smoke that is made by this Fuel, lodges its Soot in the firſt Flue; and we have directed that to be made ſo wide, that it is eaſily cleaned.

CHAP. V.

Of the filling the PITS.

After the Deſcription we have given of the ſeveral Parts of the Bark-Stove, the Gardener will perfectly well underſtand its Nature.

He knows that the Pits were opened for Tanner's Bark; which, in ſuch a Body as they are capable of containing, will ferment, and retain a uſeful Heat and Moiſture a long Time.

The Pots, containing the Plants, are to be ſet in this up to the Rim; and ſome, which will better bear a dry Heat, on the level Top of the Flues.

We have explained the Nature and Benefit of Tanner's Bark in a preceding Part of this Work, and the Reader will therefore in fewer Words underſtand the preſent Uſe of it.

Let a Quantity of Bark, after the Tanners have uſed it, be procured for this Purpoſe. Let it be of a middling Size or rather inclining to large; and, with every Load of it mix a Buſhel of Elm Sawduſt. Throw the whole Quantity up into a Heap, and let it lie thus for the Water to run off, and for the Beginning of the Fermentation.

When it has lain a Week, let it be thrown into the two Pits by a little at a Time, and ſpread with Care: this Motion, which will for the preſent check the Fermentation, will bring on, ſoon after, another, and this will come on gradually; and the Quantity being great in each Pit, it will laſt a great while. Six Months the Heat of this firſt laid Quantity will very well continue; and when at that Time it is found exhauſted in ſome degree, it is eaſily refreſh'd by the Addition of a little new Tan.

The Method of laying it in, is to ſpread every Parcel with a three-prong'd Fork; and when the Lumps are thus ſeparated, to flat it down a little with the Back of the Fork. It muſt not be preſſed, nor muſt it be too looſe, for in either Caſe it will not heat well; and I have found it very ſerviceable for the Continuance of the Fermentation, to ſprinkle in a ſmall Quantity of freſh Elm Sawduſt upon every Parcel of the Bark.

The Gardener will obſerve that we prefer Elm Duſt: but any of the common Trees of our own Growth afford a proper Kind: the Exception lies againſt Duſt of Fir, or other reſinous Trees, which is of a contrary Quality. The Elm Sawduſt is beſt becauſe of its looſe Texture, but Beech or Aſh will do.

If the Tan have been uſed a Fortnight, that is, if it were a Fortnight out of the Tan-pit, which is a very good Age, before it was thrown up into the Heap, and have lain a Week in the Heap, about ſixteen Days more will bring it to a due Temper in the Pit, and the Plants may be then brought in.

The Building ſhould be in a Condition for the Plants before the Tan is put into the Pits, that no Part of its Fermentation may be waſted; and every Thing being in this Order, the Plants of the hotteſt Climates will flouriſh in the Stove as if in their native Country. All they want is ſufficient Air, and Scope of Ground; but with regard to Air, a great deal may be admitted in the Summer Months, by opening the Glaſſes or the Doors; and it happens fortunately enough for the Curious, that very many of the Stove Plants do not require a great deal of Mould.

The reſt is all as in their natural Country; their Roots are ſurrounded with a warm moiſt Mould, which the ſlow Fermentation of the Tan always preſerves in that due Temper with the common Management of Waterings; and the whole Air of the Room is kept in a proportioned Temper of Heat by the Flues in the back Wall.

CHAP. VI.

Of placing the PLANTS.

OUR Stove of this Conſtruction has two Diviſions, or conſiſts of two or more Rooms. The Extent made two Fire Places neceſſary, and a croſs Diviſion of Glaſs-work ſeparates the Building, while it conceals no Part of it from the View; and the two Rooms are capable of being kept in two Degrees of Heat throughout all Seaſons.

The Trees and Plants are to be ſeparated into two Kinds, according to their Climates and Nature, the tendereſt for one of the Diviſions, and thoſe which are a little hardier for the other.

Theſe Degrees of Tenderneſs we have expreſſed in regard to thoſe deſcribed in the preceeding Parts of this Work; and for the others, the Places whence they come will lead the Gardener to make a fair Conjecture; and if he finds he has miſtaken in placing one of the moſt tender among thoſe which require a little leſs Heat, it is an Error eaſily amended, by removing it into the other Diviſion.

In each of theſe Beds, the Pots containing the Plants, and Trees, are to be ſet up to the Rim in the Bark, and the Top of the Flues will afford a Ridge on which many of the ſucculent Plants may be ſet; and where they will perfectly well thrive. The Melon, Thiſtle, and the like, will ſucceed very well in this Place: they are Natives of a barren Sand, dry, and naturally parched; and they do not require that Moiſture of the Mould about their Roots, which is eſſential to the others.

Theſe were the Plants firſt kept in Stoves, and for theſe the dry Stove, or that without Bark, anſwer'd very well; but it was ſoon found that there were a Multitude of other Plants, very beautiful and very deſireable in curious Collections, which could not be preſerved without Moiſture about the Roots, as well as Warmth of Air; for theſe the Bark-beds were invented, which have ſucceeded ſo happily, that there is ſcarce any Vegetable at this Time but may be raiſed in them; nor can there ever be Occaſion to make a dry Stove now, becauſe there will be always Room enough in theſe for thoſe Kinds to ſtand dry, which will bear that Method.

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CHAP. VII.

Of managing the HEAT.

THE plain Intent of the Stove is to give, and to keep up an increaſed Warmth in the Air; and on this depends entirely the Succeſs of the whole: but the Degree to be thus preſerved, would be very difficultly known, and more difficultly kept regular, but for that excellent Machine, the Thermometer.

By this the Gardener is to give his firſt Heat, and on this he is to depend perfectly and entirely for the preſerving it in the ſame State. For this Purpoſe let him procure two perfectly good Thermometers, and let him take Care that they are continually in right Order.

Let them be placed one in each Diviſion of the Stove; and at a Diſtance from the Fire-place, for they are to ſhew the general Temper of the Air in the Room, and they muſt not be within the Reach of the Fire to be any other way affected.

The Contrivance of theſe Machines is now reduced to ſuch Exactneſs and Certainty, that nothing is left to the Judgment of the Gardener; but he is to do every Thing by Obſervation: the Degrees are marked; and all he is to obſerve is, that he by no means let it riſe or fall much below the true Place.

A little warmer in the one Diviſion of the Stove, and a little lower in the other, will be proper for the ſuiting the Condition of the Air to the different Degrees of Tenderneſs in the Plants; and it is not to be expected, that this can be exactly kept to the Mark at all Times.

It would diſcourage the Gardener from doing his Duty, to tell him ſo much more than could be perform'd, was expected of him. All that he needs to do is this: let him obſerve by the Thermometer, what is the exact and proper Degree of Heat for each Diviſion; and let him often viſit the Stove to ſee that it keeps near it. There is no Poſſibility of keeping it always exactly at that Point; nor will there be any Damage to the Plants in its being ſometimes two or three Degrees below, or ſometimes two or three Degrees above it.

This gives the Gardener a Latitude of ſix Degrees: within this there will be no Danger, but within it he muſt abſolutely keep. If he go often into the Stove, he will be in no Danger of keeping it within this fair Compaſs; but Neglect of viſiting the Place may run him into the moſt deſtructive Errors.

It is equally dangerous to the Plants, to be kept in an Air a great deal too warm, or a great deal too cold: but the Change is ſo eaſily made, as the Heat depends upon actual Fire, that there is no Danger of loſing any of them this Way, except by the abſolute Neglect of looking in at different Times in the Day.

The Aſpect of the Plants will ſhew preſently whether the Air have, or have not been kept in tolerable Temper; for they can never be in good Condition, or appear lively, unleſs the Heat be within the ſix Degrees we have allowed; three under, and three over the exact Mark: with this they flouriſh as in the native Climate, under that due Regulation which we have laid down for the general Management, and for the ſeveral Kinds in the Courſe of this Work.

CHAP. VIII.

Of refreſhing the BEDS.

WE have directed the Gardener to put his Plants in a perfectly right Condition; and we have told him that the Bark-bed thus prepared, will retain its Heat ſo conſiderable a Time as ſix Months.

It will then require to be renewed; but he is not to underſtand that we mean by this it will require to have the whole Quantity of Bark taken out, and new put in its Place.

The Effect of the Fermentation is to moulder and crumble the Pieces of Bark, and this done, the Heat ceaſes. The Fermentation effects this much more ſpeedily, when the Air joins alſo its Influence on the Surface of the Bed.

For this Reaſon a Bed of Bark always appears exhauſted before it really is; and more exhauſted than it is.

Therefore let the Gardener know what he will need, and provide no more: let him procure a freſh Quantity of Bark equal to about one-fourth of the original Quantity.

When this is ready, let him take out the Pots, and pare off as much of the Bark at the Surface, as the new Quantity will ſupply: this being removed, let him throw in the freſh Bark; and with a three-prong'd Fork dig up and turn the whole, new and old together.

When it is well mix'd, let the Surface be levelled, and the Pots then ſet in as at firſt. The ſooner this is accompliſh'd the better.

The Fermentation which was not exhauſted in the lower Part of the Tan in the Bed, will be ſet a-going a-freſh by the Addition of the new, and every Thing will be reinſtated as in the original Conſtruction of the Stove.

As the Period of ſix Months is the natural Time that the Beds keep their due Temper, the beſt Method is to fix upon certain Times of the Year for refreſhing them; and the two moſt proper are, the Beginning of *April*, and the Beginning of *October*.

Theſe ſhould be the fix'd Times for the great Operation of refreſhing the Beds; and for the reſt of the Year the Management of the Plants is compriſed in a ſmall Compaſs of Direction. Cleanlineſs is a great Article; and the next are the due Admiſſion of Air, and Refreſhment by Water: all dead Leaves, and decay'd Parts of Plants muſt be taken off, and thrown out of the Stove as ſoon as perceived; and this, with the due Regulation of the Heat, by defending the Plants by covering the Glaſſes in Winter, and the letting in Air with Moderation, when the Seaſon permits, will keep the whole in perfect Health and Vigour.

EDEN:

A
COMPLEAT BODY of GARDENING.

NUMBER LV.

For the firſt Week in *OCTOBER.*

SECTION I.

FLORA, or *the* PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. DOUBLE CHINA ASTER.

Octob.

Pl. 55. Fig. 1.

THE Garden ſcarce affords a more elegant Flower than the *China Aſter*, when double, and well colour'd: and there is great Advantage in that it bears the open Air, and common Ground. The Quantity of Flowers, and their Bigneſs, upon ſo ſmall a Plant, are Articles of great Account; and we ſcarce know any Kind in which there is ſuch a Variety of Colouring. The old Writers were not acquainted with the Plant. But of later Time all have named it, and all with great Praiſe.

The Character of the *Aſter* Tribe is ſo ſtrongly impreſſed upon it, that none have miſtaken its proper generical Name. DILLENIUS calls it, *Aſter Chenopodii folio annuus flore ingenti ſpecioſo:* annual Oracle-leaved Aſter, with a large elegant Flower.

LINNÆUS, more correct in his ſpecifick Diſtinctions, is under a Neceſſity of a longer Name for this, as the Species of the *Aſter* Family are very numerous: he calls it *Aſter foliis ovatis, angulatis, dentatis, petiolatis, calycibus, terminalibus patentibus folioſis:* Aſter with oval, angulated, and dentated Leaves, on Footſtalks; and with broad leafy Cups terminating the Stalks and Branches.

Octob.

The Root is compoſed of numerous Fibres connected to a ſmall Head; they are long, white, and ſpreading; and in proportion as they have Room to extend themſelves, the Plant flouriſhes.

The Stalk is round, and ridged; of a purpliſh Colour, very much branched, and two Foot high.

The Leaves toward the lower Part are oval, angulated a little, variouſly indented, placed on Footſtalks, and of a deep blackiſh green.

Thoſe on the upper Part of the Stalks are narrower, and have no Footſtalks; they have ſeveral deep Notches on the Sides; their Colour is a ſomewhat paler green, and their Surface rough. Thoſe at the Extremities of the Branches, and juſt under the Flowers, are narrower yet, and paler; they are waved a little at the Edges, but they have no Indentings.

The Flowers terminate all the Branches, and there are ſeveral others on ſhort Footſtalks, which riſe from the Boſoms of the upper Leaves.

In the ſingle and natural State of the Plant they are extreamly large and elegant; conſiſting of a Series of violet colour'd Rays, ſurrounding a golden Diſk; but in that improved Condition to which the Plant is brought by modern Culture, the Variety and Luſtre of the Flowers is beyond almoſt Imagination.

The Rays inſtead of enriching a large Diſk in a ſingle Series, are numerous, and diſpoſed one Range within another with a moſt pleaſing Irregularity: in Colour they are either violet, blue, crimſon, or white; or of any of the Tincts which Painting can produce from a Mixture of thoſe three.

In either of theſe Colours, the Plant cover'd with a Multitude of Flowers on all its ſpreading Branches, affords a moſt pleaſing Appearance; and a Number of them placed at moderate Diſtance, with other autumnal Flowers between, gives a Grace, that ſcarce any thing equals, to this advanced Seaſon.

'Tis in this State the Gardener admires the Plant, and to bring it to this he employs all his Labour: but to the Botaniſt there is more Information in the ſingle Flower; and to that we muſt refer him for the Characters of the Plant, which are as ſtrongly expreſſed in it as any of the *Aſters*.

The Cup is form'd of ſeveral Ranges of leafy Scales.

The Flower is compoſed of a Multitude of tubular Floſcules, rang'd cloſe together in a Diſk, with a Circle of ſurrounding Rays.

The tubular Floſcules in the Diſk have the Rim cut into five Segments, and expanded; and in theſe there are five ſhort Filaments, with long Buttons, which coaleſce into a Cylinder. In the Centre of them ſtands a ſingle ſlender Style ſplit at the Top. This riſes from an oblong Rudiment, crown'd with a little Rim, which was the Cup of the particular Floſcule.

The Rays are long, and broadeſt in the Middle, and they have three Indentings at the End. Theſe have at their Baſe a Rudiment of a Seed, and from it a long ſlender Style with two Heads; but there are no Filaments or Buttons. Theſe are therefore Female Floſcules; the tubular ones in the Diſk Hermaphrodite: both theſe and the others are ſucceeded by perfect Seeds.

The five coaleſcent Buttons ſhew the Plant to be one of the *Syngeneſia*; and as the Floſcules of the Diſk ripen their own Seeds, the Impregnation which the Rudiments placed under the Rays receive from their Buttons, is judged unneceſſary, and the Plant is to be refer'd to that Order under the *Syngeneſious* Claſs, which he diſtinguiſhes by the Term *Polygamia ſuperflua*.

When the Floſcules in the Diſk of a compoſite Flower do not ripen their own Seeds, but the Rudiments under the Rays, which have no Male Parts belonging to themſelves, are impregnated by their Antheræ, in that Caſe the various Impregnation is judged neceſſary, as it is here ſuperfluous.

Culture of the CHINA ASTER.

It is a Native of *China*, and is in that gay Country as frequent about the Hedges as Mallows, or Thiſtles, are with us. It loves a free, open, and mellow Soil, and thrives beſt where it has full Expoſure.

With us, though it bear the open Ground and free Air in all Seaſons during its Growth there, yet there requires the Aſſiſtance of a Hot-bed to bring the Plants forward at firſt; and ſome Cautions, more than the common Gardener uſes in the Management of it are neceſſary afterwards: for which Reaſon it is rarely ſeen in the full Perfection.

As it is one of the moſt elegant and valuable of the annual Plants, we ſhall lay down at large the Management of it from Seed to flowering; and this may be the more agreeable to the young Gardener, as the ſame Rule will hold for the other Annuals raiſed on Hot-beds.

He who would have the *China Aſter* in Perfection, muſt begin his Care the preſent Autumn. Let him mark a certain Number of his fineſt Plants for Seed, and pull up all that are of an inferior Kind as they open their firſt Flowers. The Farina from one of theſe Plants will impregnate the Flowers of another; therefore if there be but one indifferent Flower left in the ſame Ground, there is no Certainty of the Seed being fine.

When the Plants are placed in the ſame Border, the Winds will bring the Farina of one upon another, and that Way affect this Miſchief.

When they are too far off for that Accident to have place, the Bees that take Honey from one Flower, and then from another, will do the ſame Miſchief.

Theſe Inſects collect Wax as well as Honey; and the Subſtance of this Wax is the Farina, or Duſt of the Buttons of Flowers: they fix this upon their Thighs; and they viſit many Flowers, in order to get the Loading they carry in at once. They may come from a bad Flower to a good one, and the Duſt they bring from the inferior Kind will do the ſame Miſchief.

There is not this Danger in the Bees coming from one Flower to another, when they are of different Species; for Nature has adopted the ſmall Organs of Flowers to the Reception of their own Duſt, and no other; and the Seeds are not capable of Impregnation by any other, unleſs in very particular Inſtances, whence the few mongrel Plants; but in the Varieties of Flowers raiſed by Culture from the ſame Seed, the Organs are the ſame in all, and the Farina or Duſt is the ſame; and therefore the Miſchief will be very likely to happen, and the fineſt Flowers will be debaſed.

This is the Courſe of Nature in the Impregnation of Plants: to this it happens that there are not continual mixed Breeds produced; and to this is owing the Danger of debaſing the beſt Flowers, by leaving bad ones among thoſe which ſtand for Seed.

The Caution holds equally in many other Kinds; but in all the compoſite Flowers it is to be regarded with a particular Attention, becauſe we ſee Nature has intended this various kind of Impregnation.

The Rudiments of Seeds in the Verge, are to be impregnated by the Duſt of the tubular Floſcules in the Diſk; and they will as readily receive that Duſt from the Floſcules of another Plant, of the ſame Species, as from thoſe of the ſame.

The Gardener will now perfectly underſtand the Reaſon of tearing up all poor Flowers among the good ones he leaves for Seed; and he will thus be ſecure of a good Kind.

There is a Way of improving his Stock yet farther. We know a Property in Nature, of which we cannot explain the Reaſon: it is that Seeds of the ſame Kind of Plant grow better upon a remote Ground, than in that whereon they were produced. The Farmers know it in regard to their Wheat; and dealing upon good Faith with one another, they make Exchanges for that Reaſon.

It will be wiſe in the Gardener to do the ſame in this Inſtance: if he knows another who will take the ſame Care in ſaving Seed from his Plants, there will be Advantage to both in changing.

The Management of the Seed Plants muſt be the ſame we have directed on other Occaſions: they muſt not be ſuffered to exhauſt themſelves by too much flowering; but after a good number of Flowers are ſet for Seed, all that offer afterwards muſt be taken off in the Bud. The whole Effort of Nature will that way be directed to the filling of the Seeds; and this the Gardener is to promote farther, by clearing away the Bed to ſome Diſtance about them, and giving them frequent moderate Waterings.

Theſe are to be continued all the Time the Seed is taking its Growth; but when it has acquired the full Bigneſs, the whole muſt be left to Nature; as nothing is required but a gradual hardening of the Seed.

When the Seed is ripe and harden'd, let the Heads be cut off carefully, and ſpread upon a Shelf, cover'd with Paper, in an airy Room. Let them lie at a good Diſtance from one another; and let them be turned at leaſt once a Day.

When they have lain thus a Fortnight pick out the Seeds, and ſpread them alſo upon a Shelf to dry and harden farther. Turn them often; let them lie a Week, and then tie them up in Paper Bags: they are in a Condition for keeping, till the Seaſon of ſowing; and in this State the Change ſhould be made between one Gardener and another, each being ſure the other has taken the ſame regular Method of managing them. In theſe Bags they are to be kept till Spring.

In the Middle of *March* let a Hot-bed be prepared for them; and covering it five Inches with fine Mould, when it is of a due Temper, the Heat gentle, and the Mould warmed through, let theſe Seeds be ſcatter'd on with an even Hand, and a Quarter of an Inch of the ſame Mould be ſifted over them.

When the young Plants appear, let them be thin'd where they riſe too cloſe; and from this Time let the Glaſſes of the Bed be raiſed more and more every Day, that the Plants may be habituated to the Air.

The common Error is the keeping them too cloſe in this firſt Bed, and then removing them to another of the ſame Kind. Let the Gardener avoid this Miſtake.

They are to be planted out from this Bed into the open Ground, though it muſt be in a well choſen Spot, and their Succeſs depends upon the hardening them in the very firſt Period of their Growth.

If they are drawn up weak, tall, and tender at this Time, they will be check'd greatly upon removing into the Air, and Inſects will ſeize on them; they never will have their full Bigneſs, nor their true Shape.

There is not a handſomer Plant than a full grown *China Aſter*, cover'd with Flowers; but we ſee for one ſuch a Thouſand diſtorted Dwarfs, all owing to Miſmanagement, and this is the firſt Article of it in moſt Gardens.

Let a Piece of Ground be choſen in the Seminary that is well ſhelter'd from cold Winds, and open to the Morning Sun.

Let a Bed be well dug up in this a full Spade deep, and the Mould perfectly broke.

When the Plants on the Hot-bed are three Inches high, let this Bed be mark'd out into Squares of ten Inches Bigneſs; and in the Evening of a cloudy Day, let the Plants be taken up, each with a good Ball of Mould; and Holes being ready open'd for their Reception in this new Bed, let them be planted one in the Centre of each Square.

Let the Mould be carefully gathered about them; and let them have a moderate Watering. Shelter them with a Reed-hedge to defend them from the Wind and Sun till rooted; and promote this by frequent moderate Waterings.

Every Evening let theſe be repeated, unleſs natural Showers do the Buſineſs for the Gardener; and let him proportion the Quantity of watering to the Condition of the Mould; it muſt never be made wet or pappy, nor ever ſuffer'd to be very dry.

Once in four Days let the Ground be broke by a Hoe; and if any Plant among them appear blighted, let the injured Part be cut off; and Nature left to her Chance for renewing it. 'Tis better to cut down a Plant on this Occaſion, within one Joint of the Ground, than to ſuffer it to continue in that diſeaſed State; there will a better Plant riſe from the Bottom than could have been made from the whole.

Six Weeks the Plants ſhould remain in this Bed; and after that they will be fit for removing to the Places where they are to flower.

Some keep them longer out of the Garden, but it is wrong, for they bear removing worſe; and the Flower Buds being form'd, the Beauty of

Octob. of the Plant is often ſpoiled by the Check they receive at that Time.

'Tis beſt to have one large Bed for theſe Plants, not to diſperſe them in the Borders. The inferior Kinds may be placed in that Manner, but the fine ones ſhould be preſerved ſeparate, and there cannot well be conceived a nobler Appearance than a large Bed of double *Aſters* of this Kind, intermixed at Nature's Pleaſure, in their various Colours, and glowing with all the Degrees of purple and crimſon down to white.

It muſt be left to Nature to mix theſe Colours; for, according to our Rule of removing at this Period for the laſt Time, there is no knowing what they will be.

Therefore when the Plants have had ſix Weeks Growth in their ſecond Bed, let a fine warm Spot be choſen for them in the Garden, and a Bed dug up two Spade deep, the Mould fine and freſh.

At the ſame Time alſo, let ſome Holes be open'd in different Parts of the common Borders. Let the Bed be mark'd with Lines lengthway and acroſs, at a Yard Diſtance, and in the Centre of each open a large Hole.

In a cloudy Evening take up the Plants out of the Nurſery Bed, each with a good Ball of Earth.

Such, as in ſpite of all Care have been damag'd, are to be planted in the Borders; the fine ones in theſe Holes, one Plant in each: the Mould muſt be well cloſed about them, and they muſt be here as at firſt, ſhaded, and water'd every Evening till they have taken Root.

A ſhowery Seaſon is a great Aſſiſtance at the Time of this tranſplanting; but if Nature withholds this Benefit, the Gardener muſt ſupply its Place by frequent Waterings. Though a ſhowery Time is a great Advantage, he muſt not defer the Work in Expectation of it; for on the makeing this laſt Tranſplantation in good Time, depends the future Succeſs of the Plants.

When they are well rooted in the new Bed, they will require no more Care than to have the Ground between them at all Times kept clear from Weeds, and once in ten Days very well broke, to the Depth of an Inch or two, with a Hoe. The Waterings muſt alſo be repeated frequently; and all Care taken to keep the Plants in Health. Octob.

In this Manner, and in no other, the *China Aſter* will be brought to flower in its full Perfection.

The Compaſs we allow for the Roots, is much more than commonly ſuppoſed neceſſary for that Purpoſe, but the Plants will thus cover the whole Ground.

When they come to flower there will uſually appear one Flower upon the Head of the main Stalk, larger, but leſs double than the others: this ſhould be taken off as ſoon as it appears, for being leſs double it ſhould not ſtand for Seed; and the Effort of Nature, unleſs it be taken off, will be moſt employ'd that Way becauſe it is the firſt. The taking this off is therefore no Injury to the next Crop, and it greatly increaſes the Bloom upon the other Parts of the Plant.

In all ſingle flower'd Plants this firſt Flower ſhould be mark'd, and kept for Seed, for the very Reaſon we have juſt given, that the Effort of Nature is immediately directed thither for the ripening it: but in double flower'd Plants in general, this Method ſhould be obſerved, of pulling it off; and moſt of all in the *China Aſter*.

This is not known: they who have Skill enough not to ſave Seed from this Flower, yet leave it upon the Plant; not conſidering that although they do not intend to preſerve the Seed of this Flower, Nature will be at the ſame Pains to ripen it; and that it ſtarves, in ſome degree, all the others.

The ſame Care muſt be taken to crop the Flowers off from all the Plants, except thoſe ſaved for Seed as they fade; for on that depends the Succeſſion of others; this Method, and good Watering, will keep the Plant in Beauty till the Froſt deſtroy it.

It is but about five and twenty Years we have been acquainted with this Plant; and a much leſs Time that we have ſeen it with double Flowers.

2. DOUBLE CRIMSON HOLLYHOCK.

Pl. 55. Fig. 2. There wants only Scarcity to place the *Hollyhock* among the choiceſt Flowers. The Plant is of exalted Stature, and of regular Growth. The Flowers are large, double, and in the preſent Kind moſt elegantly colour'd.

The Eye of juſt Obſervation will ſee its Beauty, however frequent Obſervation may have dulled thoſe of others; and as it has always from our firſt Knowledge of the Plant, had, it will always retain a Place in our Plantations.

The old Writers have been well acquainted with the Plant, and they have refer'd it to the Mallow Kind; diſtinguiſhing it by the Epithets *arborea*, from its Stature; and *hortenſis* from its Culture; as alſo by a Variety of other Names from its Form and Colouring in the Flower.

Dodonæus calls it *malva hortenſis:* the Garden Mallow: others, *malva roſea hortenſis:* the Garden Roſe Mallow; and *malva roſea folio ſubrotundo:* the roundiſh leaved Garden Mallow, in Diſtinction from another Kind which has a Fig-like Leaf, and is called therefore *ficus folio.*

LINNÆUS, rejecting theſe vague Diſtinctions, has ſeparated the *Hollyhock* from all the mallow Kinds, and ſhewn in it the Characters of a diſtinct Genus: to this he gives the Name *Alcea*, a Term before uſed for the *Vervain-Mallow*, but now appropriated to this Plant; and the others, which conſtitute the Genus. He adds, as the ſpecifick Diſtinction of this, *Foliis ſinuato-anguloſis:* Alcea with deeply-ſinuated, and, as it were, angulated Leaves.

The Root is long, thick, and white; and it is hung from all Parts with innumerable Fibres, which ſpread to a great Diſtance when they have Room and a free Soil; and then only ſhew the Plant in its higheſt Perfection.

The firſt Leaves are very large, and placed on long Footſtalks; they are broad, ſhort, deeply ſinuated, rough, and of an obſcure green.

The Stalk is round, erect, of a pale green, a little hairy, and ſeven or eight Foot high.

The Leaves on this have alſo long Footſtalks; they have a general Reſemblance of thoſe from the Root; but they are longer in Proportion to their Breadth, of a paler Colour, and more deeply ſinuated or waved at the Edges, and are lightly indented between the deeper Inciſions.

The Flowers form a Spike from a little above the middle of the Plant to the Summit; a Yard or more in Length: they ſtand thick, and in the various Appearances of half-blown, full-open'd Flowers, and thoſe in the Bud they afford a pleaſing Variety.

The full-blown Flowers are equal to a Roſe in Bigneſs; and are of a delicate pale crimſon.

The outer Petals, which are large and elegantly expanded, are paleſt; the ſmaller, which form a globular Body in the middle, are more waved, and of a deeper red: the whole very ſpecious and elegant.

This is the State of the Plant in the Condition wherein we repreſent it in the annext Figure; but there is among the Flowers an almoſt endleſs Variety in the Colouring, and the Quantity of Petals or Degree of Doubleneſs.

In reſpect of Colour there are double *Hollyhocks* of every Tint, of red from purple, in a Degree that is almoſt black, to the paleſt fleſhy Hue: white is alſo a common Colour, and there are yellow in all the Degrees, and ſome variegated Flowers; but in the whole Compaſs of the colouring, there is no Tinct in which the large and fine double *Hollyhock* appears ſo truly elegant, as the pale crimſon here repreſented; nor is there any Colour which is ſo ſcarce as this in the full Degree of Perfection.

The Characters the Student muſt ſeek in a ſingle Flower; they are obliterated, or at leaſt impaired in theſe double ones; the more as they are more double: but in the ſingle Kinds the Bigneſs of the Flower renders all the Parts diſtinct; and there is no Species in which thoſe of the Claſs to which all the Mallow Kind belong, can be better traced.

Every Flower has two Cups diſtinguiſhed according to their Places, by the Names *outer* and *inner:* both are permanent; remaining with the Seed.

The outer Cup is formed of one Piece, and divided lightly at the Edge into ſix Segments, which ſtand expanded. This is the ſmaller of the two: the inner is in the ſame Manner formed of one Piece, but it is cut only into five Segments.

The Flower is formed of five large Petals united at their Baſes; they are obſcurely heart-faſhion'd, nip'd at the Edges, and wide expanded.

In the Centre ſtand a great Number of Filaments, crowned with Buttons of a Kidney-like Shape.

The Filaments unite in their lower Part, and form a pentagonal Column; and at their Tops ſtand looſe: they adhere to the Body of the Flower.

The Rudiment of the Fruit is rounded, and has a ſhort cylindrick Style, terminated by twenty or more, buſhy Heads, equal to the Body of the Style in Length. After the Flower the Rudiment ripens into a Fruit of a rounded depreſſed Form, compoſed of jointed Capſules, which, when ripe, ſeparate and ſplit on the inner Part. Till that Time they are kept in their Places by a columnar Receptacle, to which they are all fixed by their inner Edge: each Capſule contains one Seed, which is large and Kidney-like, but compreſſed.

The Student knows, that when the Filaments in any Flower coaleſce in whatſoever Manner, he is not to ſeek its Claſs and Place in the *Linnæan* Syſtem by their Number, but by the Condition of that Union. They form in this Flower only one Body, therefore the *Holyhock* is one of the *Monadelphia*; and the Number of them refer it to the Subdiviſion of that Claſs entitled *Polyandria*.

Culture of the HOLLYHOCK.

We have told the Gardener that the black, red, purple, crimſon, fleſh-colour, white, variegated, and even yellow *Hollyhocks*, where the Leaves anſwer the Character of thoſe of this Plant, are all Varieties from one common Stock; the ſame Seeds therefore raiſe, and the ſame Culture brings them to Perfection. Indeed the other Kind, which ſtands ſeparated even by LINNÆUS, under the Name *Fig-leav'd Hollyhock*, differs ſo little from this, that he ſuſpects it but a Variety; and the Change of Leaves in Seedling Plants gives too much Reaſon for joining in his Opinion.

However that be, it is certain all the others may be raiſed by good Management from the ſame Seed, and this is the Method. When the *Hollyhocks* begin to flower, let the Gardener pull up all bad Kinds, that there may be no Damage from the Duſt of their Buttons im-

Octob. pregnating the Seeds of ſuch as are of a ſuperior Kind, and have ſufficient Buttons of their own. This done, let the others be encouraged to flower in their full Strength, by breaking the Ground between them, and allowing frequent Watering; and when it is ſeen which are not promiſing, let them be marked for Seed.

Let theſe be tyed up each to a firm Stake; let the Head or Top of the Spike be taken off, that too many Flowers may not weaken the Seeds ripening from the firſt; and let theſe Plants have all due Attendance. Let any Side Shoots that offer be taken off, and all the Efforts of Nature directed to the ripening the Seeds.

When theſe are perfectly ripe, let the Head of the Stalk be cut off, and the Fruit taken off afterwards, and ſpread upon a paper'd Shelf. Let them be turned every other Day; and when perfectly hardened, let them be put up entire in Paper Bags; not ſhaking out the Seeds, as is done on many Occaſions. Let the Bags be hung up during Winter.

In the laſt Week of *March* let a Bed of good freſh Mould be dug up in a Part of the Seminary that is open to the Morning Sun. Let it be raked level, and lie a Week to ſettle; then take off as much of the Surface as will ſerve to cover the Seeds a Quarter of an Inch: ſcatter on the Seeds not too thick; ſift this ſmall Portion of Mould over them, and leave them to Nature.

When the young Plants come up, Weeds will riſe in Plenty among them; and they muſt be pulled up. The Plants muſt alſo be thinned where they ſtand too cloſe, and after this the whole Bed muſt have a moderate Watering: Care muſt be taken to give this gently, not to waſh away the Earth from the Root of the young Plants.

After this, as they advance in Growth, they muſt be thinned from Time to Time; but the Plants taken up are not to be deſtroyed, but ſet in a Nurſery Bed dug for that Purpoſe. By this Means the Remainder will gather Strength; and when they are of a Bigneſs to crowd one another, let the whole be tranſplanted: at this Time they ſhoot only Leaves.

The *Hollyhock* is a biennial, and its Stalk for flowering does not riſe till the ſecond Seaſon.

When the Leaves are ſo many and ſo large, that they crowd upon one another, let a ſecond Bed be dug up in the Nurſery two Spades Depth: let the Mould be well broken; and the Bed marked into Squares by Lines drawn both Ways, at a Foot and a half aſunder. Octob.

In the Evening of a ſhowery Day let the Plants be taken up; and, Holes being opened for them in the new Bed, one in the Center of each Square, let them be ſet with Care, taking them up with as much of the Mould as will come with them, placing the Roots upright in the new Bed, and gathering the Mould well about them: they muſt be watered often till they have taken Root, and after that kept clear from Weeds: this is all the Management they require during Summer.

In the Beginning of *October* they are to be tranſplanted into the Places where they are to flower, and this will require alſo to be done with Care.

Large Holes muſt be opened for them: they muſt be dug out deep, and with as much of the Earth as will adhere to them; the Fibres muſt be trimmed off at their Ends juſt as they are placed in the Ground; the Mould muſt be well drawn up about them, and ſettled by a gentle Watering, which muſt be repeated more largely the next Day, and every Day afterward till they are well eſtabliſhed. They will flower there the ſucceeding Summer, and they ſhould then be tied up to firm Stakes, and encouraged to blow boldly by frequent Weeding, breaking the Earth about them, and good Waterings.

After this there ſhould be in the ſame Manner a new Succeſſion raiſed for the ſucceeding Year: for the Plants never flower ſo ſtrong or elegantly as the firſt Time.

Let not the Gardener ſuppoſe we are too particular in theſe Directions for the Culture of ſo common a Plant. The Method uſed by the Generality of his Profeſſion, robs it of the greateſt Part of its natural Beauty: the Seed is ſown in Drills, becauſe 'tis eaſy to weed between the Rows; and to ſave a little Trouble, the Plants are raiſed cloſe and crowded, ſo that they ſtarve one another: after this they are tranſplanted at ſmall Diſtances, and there left to flower the firſt Time, that the Gardener may ſee which are beſt. By this Means the Plants are never brought into a Garden 'till their beſt Seaſon is over; and where they ſtood to flower, they muſt have been poor becauſe not allowed Room.

The Roots never ſucceed well when taken up ſo old; and they are brought into the Garden in this maimed Condition when they ſhould be taken out of it.

3. SPOTTED PHLOX.

Pl. 55. Fig. 3. This is one of the many fine Plants we have received from *North-America*. It is there an elegant Weed; with us it is deſervedly raiſed to the Condition of a Garden Plant.

The old Authors could not know it, for it is Native of no other Part of the World but that we have named, which was wholly unknown to them; but it is ſomewhat ſtrange, that of later Time it did not come more into the Way of thoſe who ſearched that remote Quarter of the World.

RAY has deſcribed it in his Supplement to the Hiſtory of Plants: he does Honour to Mr. KRIEG, from whom he received it, and who had brought it from *Maryland:* he names it a *Lychnoides*; and thoſe who followed have deſcribed ſeveral of the other Species of the *Phlox* Kind under the Name *Lychnidea.* RAY adds to this generical Name, *Marilandica Jaſmini flore quinque partito foliis binis oppoſitis baſi & auriculis caulem utrinque amplexantibus:* Maryland Lychnoides, with a Flower-like Jaſmine divided into five Parts, and with Leaves placed oppoſite, and embracing the Stalk with their Baſes and Appendages.

LINNÆUS, whoſe ſtrict Ear was equally offended with the unartful Terms *Lychnoides* and *Lychnidea*, has given the Genus the Name *Phlox*, and he adds as the Diſtinction of this Species, *Foliis cordato-lanceolatis lævibus:* Phlox with ſmooth, heart-ſhaped, and lanceolated Leaves.

The Root is compoſed of innumerable Fibres connected to a ſmall Head.

The Stalk is upright, firm, ſimple, and two Foot high, rounded, ſomewhat rough on the Surface, and elegantly ſpotted. The two Colours which form the Variegation are red and green; when the Plant is in its higheſt Perfection, they are thrown together upon the Stalk in irregular Lines, Spots, and Blotches; when it is ſickly, or worſe managed, they are leſs elegantly diſpoſed; and ſometimes the Colour is ſimply green, ſtain'd, as is common in the Stalks of Plants, with a little red at the Bottom.

The Leaves are placed in Pairs, and they throw themſelves ſeveral Ways with a great deal of Freedom and Irregularity. They are oblong, and moderately broad: largeſt and Heart-ſhaped at the Baſe, where they embrace the Stalk, and from thence waved at the Edges; ſomewhat broad again near the middle, and ſharp-pointed. Their Colour is a freſh green, not dark but pleaſing, and they are perfectly ſmooth.

The Flowers are numerous, large, and beautiful; their Colour is a pale but delicate red, often nearly white, and they are diſpoſed in a great irregular Tuft at the Ends of the Extremities of the Stalks.

Each Flower has its Cup, this is form'd of one Piece marked with ten Ridges, and cut into five Segments at the Rim.

One Petal forms the Flower, but 'tis ſo deeply cut, that there appear as many as there are of thoſe Diviſions.

The tubular Part is longer than the Cup, narroweſt toward the Baſe, and a little bent; the Segments of the Verge are five, they are large, rounded, and expanded.

The tubular Part of the Flower muſt be torn open to ſhew the Filaments, for they are buried in it; they are five in Number, but irregular. Two are larger, and one is ſhorter than the other two. Their Buttons ſtand in the opening of the Segments.

The Style is ſingle, and is of the Form and Length of the Filaments, but it is crowned with a three-parted Head: it riſes from a Rudiment of a Conic Form, which ripens into an oval Capſule, marked with three Ridges, formed of three Valves, and divided within into three Cells, in each of which is an oval Seed.

The five Filaments ſhew the Plant one of the *Pentandria* of LINNÆUS, and the ſingle Style one of the *Monogynia.* The Difference in Length of the ſeveral Filaments does not in theſe irregular Diſproportions form any claſſical Character.

Culture of this PHLOX.

The Plant is a Native of *North-America*, perennial, and fibrous rooted: the Culture therefore is eaſy. No Care of Defence for Winter needs be had; the common Garden Mould perfectly well ſupports it, and where it is once planted, it will remain as hardily as an undiſturbed Weed.

All the common Gardener does towards its Propagation, is parting the Roots at Autumn, whoſe abundant Encreaſe indeed, if nothing more were required than adding to the Number of the Plants, would render all other Care ſuperfluous; but the Pupil knows there is Hope for Improvement, wherever there are conſpicuous Flowers: eſpecially when they have a natural Tendency to Variation. The Method of this we ſhall lay down, and it will ſerve for the others of the ſame Kind and Country.

As the Flowers vary greatly in Colour and in Beauty, let the Gardener mark ſuch as are fineſt, and take Cuttings from thoſe Plants.

Let a Bed of freſh and rich Mould be dug up for theſe in the Nurſery, and let them be watered duly till they have taken Root. The beſt Seaſon for planting them is the middle of *May:* they will be rooted towards the End of *June*, and they muſt remain in their Places till *October*; then let them be removed into their Places in the Borders, and let the Ground be kept clear about them for a Foot and a half every Way: this promotes the ſpreading of their Fibres; and on this depends the Perfection of their Flowers.

The Colouring of the Stalk is very apt to be loſt when the Roots are parted; but when Cuttings are uſed, if Care be taken to chuſe a painted Stalk, that particular Beauty is generally preſerved in the Plant raiſed from it; and the Growth is always handſome.

4. SINGLE VIOLET STOCK JULYFLOWER.

We have in a preceding Number figured the great *crimſon Stock*; and have there given the general Culture of the Plant, and the Method of enlarging, doubling, and perfecting its Flowers; as alſo of keeping them in Perfection; in this and the ſucceeding Chapter, we ſhall treat of the common *ſweet violet Stock*, and its double, painted Offſpring, the common variegated Kind.

The Student has been told, that LINNÆUS rejects all the uſual Names of this Genus. This particular Kind which LOBEL, and the leſs accurate Writers after him, called *viola alba & purpurea:* the white and purple violet, and others after BAUHINE, *Leucoium incano folio hortenſe:* hoary leaved Garden Stock Julyflower. LINNÆUS ranges, under his Genus *Cheiranthus*; and diſtinguiſhes it by adding, *foliis lanceolatis, integerrimis, obtuſis, incanis ſiliquis apice truncatis, compreſſis caule ſuffenticoſo:* woody ſtalked Cheiranthus, with undivided, hoary, lanceolate, obtuſe Leaves, and with compreſſed Pods with abrupt Heads.

'Tis in its plain and ſimple State we repreſent it in this Place; as it covers the *Spaniſh* Shores; and as it ſtands unaltered in our Gardens.

The Root is compoſed of innumerable Fibres, long, thick, ſpreading, and connected to a ſmall Head.

The Stem is woody, upright, two Foot high, of a pale Colour, and wrinkled Surface; and is divided into many Branches.

The Leaves are oblong, and undivided, ſoft to the Touch, cover'd with a kind of Down, and of a whitiſh or greyiſh Colour, with very little green.

The Flowers terminate all the Branches, in great Numbers diſpoſed in long, looſe Spikes: they are large, ſweet ſcented, and in Colour of a violet purple: but in this there is great Variation, even in the wild State of the Plant.

We ſee upon the Shores the Flowers of ſome Plants of this Kind of the true violet Hue; others purple, with more red; ſome pale, and many perfectly white. LOBEL was juſtified therefore in calling it indeterminately, white and purple. In Gardens the Variation in the ſingle Flower is much more, and when we come to the double ones it is without Limitation.

The Cup of the Flower is form'd of four little Leaves, and is of a compreſſed Form; two of the Leaves are prominent at the Baſe, the others plain.

The Flower is compoſed of four expanded Petals, broad, obtuſe, and terminated within the Cup by narrow Bottoms.

The Filaments are ſix, but four are longer than the other two; this places the Plant among the *Tetradynamia:* and as the Seed-veſſel is a Pod, it belongs to that Order which comprehends the *Siliquoſæ*.

The Shortneſs of the two particular Filaments is owing to their being bent within the prominent Part of the two Leaves of the Cup, which have that Particularity; and there is in that Part adhering to each, a Gland, forming the Nectarium of the Flower.

The Buttons which crown the Filaments are ſingular in their Form, ſplit at the Baſe, and at the Top pointed and turned back.

Culture of this CHEIRANTHUS.

We have obſerved, that the Plant is a Native of the Sea Coaſts, in the warmer Parts of *Europe*; and we have thence deduced the Method of Culture laid down in a preceding Number: this conſiſts chiefly in chuſing a warm well defended Spot, and adding Sea Sand to the Compoſt; to that Place we refer for the Particulars of the Management; and need only add, that by good Management there will be produced from it the following, and a Multitude of other beautiful Kinds.

5. DOUBLE VARIEGATED STOCK JULYFLOWER.

Pl. 55. Fig. 5. The Plant being in its Original the ſame with the preceding, no Names of Authors need be brought to ſhew what it is, nor any Deſcription given at large; the Parts being the ſame, though render'd more bold and gorgeous by Culture.

From a fibrous Root, as in the former, riſes a woody Stem, which at a Foot and half above the Ground, ſends out many Branches cover'd with greyiſh oblong Leaves, and terminated by Spikes of elegant, large, painted, and very fragrant Flowers.

Theſe are compoſed of numerous Petals, which are oblong, irregular, waved at the Edges, placed in ſeveral Series, and ſtained with different Colours, red, white, and green, in Lines and Blotches.

The Characters are the ſame as in the ſingle Kind, but the Parts on which they depend are often obliterated, or obſcured, as in other double Flowers. The Culture we have given in a preceding Article.

Pl. 35.

Double China Aster 1
4
ingle Violet Stock July flower
5
Double Vairegated Stock July flower
2
Double Crimson Hollyhock
3
Spotted Phlox
6
Trilobate Lavatera
7
Giant Lupine
I.Hill delin et Sculp

6. TRILOBATE LAVATERA.

We have told the Gardener how ill arranged the Mallow Kind ſtand in the Generality of Authors, and how much Freedom LINNÆUS has been under a Neceſſity of uſing to bring them into Order: he is not therefore to wonder at the Name *Lavatera* being beſtow'd upon the *Althæa frutex*. The Characters that Author has eſtabliſh'd are very accurate; and they demand this Sacrifice.

He is to be told that the common Name is as old as *Cluſius*. He has called the preſent Species *Althæa frutex*, without farther Addition; and many followed him. C. BAUHINE arranges it among the *Althææ fruteſcentes*, and PLUKENET, with many others, after him.

VAN ROYEN and LINNÆUS join in referring it to the *Lavatera*; and the latter adds as its ſpecifick Diſtinction, *caule fruticoſo, foliis ſubcordatis, ſubtrilobis, rotundatis, crenatis, ſtipulis cordatis, pedunculis unifloris*: ſhrubby Lavatera, with Leaves of a ſomewhat hearted and triobous Form, rounded, and crenated; with heart-ſhap'd Films at the Baſe, and with Flowers placed one upon each Footſtalk. A long Name, but neceſſary.

It is a very elegant Shrub. The Roots ſpread far, and the Shoots are numerous and woody.

The Bark is of a pale brown; and the Branches are paler yet: the young Shoots are green, ting'd ſometimes in an irregular Manner with red; and cover'd very lightly with a delicate Hairyneſs.

The Leaves vary extreamly in their Form, ſometimes longer, in other Parts of the Plant ſhorter, but every where ſhewing a Tendency to a trilobate Diviſion by two deep Indentings, and a long Point from between them.

Theſe ſeveral Diviſions are more or leſs conſpicuous, and the Leaves are deeper or paler, according to the Part of the Plant on which they grow, and to its Health and Vigour; but they are always irregularly and bluntly indented, and have a light Hairyneſs; they are alſo ſoft and clammy to the Touch.

The Flowers are very numerous, and elegant: they riſe from the Boſoms of the Leaves, two or three together in ſome Places, in others ſingly, but each of them has always its ſeparate Footſtalk. Their Colour varies, but in the moſt perfect State they are crimſon about the Centre, and elſewhere white.

Each has its double Cup, as is common among the malvaceous Kinds. The outer Cup is formed of one Leaf cut into three ſlight Segments; the inner is larger, formed of one Leaf alſo, but cut into five Segments; and both remain after the Flower.

The Body of the Flower is formed of firm, broad, expanded Petals, united at their Baſes.

In the Centre ſtands a columnar Body, formed of the lower Parts of numerous Filaments, which are inſerted in this collected State upon the Flower at their Baſes, and at their Tops ſeparate, and are crown'd with Kidney-ſhaped Buttons.

The Style is ſingle, but it is terminated by ſeveral Heads; and it riſes from a rounded Rudiment, which ripens into a kind of orbicular Fruit, compoſed of many ſmall Capſules, in each of which is one Kidney-ſhaped Seed, and which are kept in their Places by being fixed to a columnar Receptacle.

The Student knows that when the Filaments in a Flower coaleſce into a Body, the Claſs is determin'd by that, and not their Number: he will therefore ſee this Plant is one of the *Monadelphia*, and the Number of the Filaments refer it to that Subdiviſion, thence named *Polyandria*.

Culture of this LAVATERA.

It is a Native of *Spain*, and other of the warmer Parts of *Europe*, and thrives beſt there in a deep rich Soil. With us it bears the Winter in the open Air; but ſo much Conſideration ſhould be had of its naturally warm Climate, as to allow it a ſhelter'd Place, and as much Defence as can be given Things in the open Ground. Without this Care it lives with us, but this Way it thrives as well as in its native Climate.

Very good Plants of it may be raiſed from Cuttings, and many have prefer'd that to any other Method, becauſe the Cuttings bear their tranſplanting without Harm; whereas the Seedlings, after they have acquired any conſiderable Growth in the Nurſery, decay after tranſplanting. But this is only prefer'd becauſe the Seedlings have not been well manag'd; either way will produce good Plants, but the Method from Seeds the beſt.

There are ſeveral Plants beſide this which do not bear Removal when they are grown to any Size; and the Method we have directed for the Management of thoſe will equally ſuit this; and thoſe who try it will no more prefer Cuttings.

The Seeds ripen with us perfectly in Autumn, and they ſhould be dry'd with Care, and preſerved till the following Spring.

In the Middle of *March* let the Ground be dug up two Spades Depth, and the Surface levelled where the Shrubs are intended to ſtand: if in ſeveral Parts of the Garden, let a Spot of half a Yard ſquare be dug up at each Place. Scatter on ten or twelve of the Seeds upon each ſuch Spot, and cover them a Quarter of an Inch with Mould.

When the young Plants appear let them be water'd frequently; and as ſoon as it is ſeen which is the fineſt, and beſt eſtabliſh'd in the Ground, let all the reſt be taken up, and the Attention of the Gardener be devoted to that.

When only one is thus left in each Place, it

Octob. muſt be often water'd; the Ground frequently hoed about it to break the Surface, and deſtroy Weeds; and it muſt be train'd up to Shape.

The ſecond Year theſe Plants will flower; and they will continue with good Management many Seaſons in Beauty: the great Care is not to let them flower too profuſely. If ſuffer'd to produce that abundant Quantity of Bloom they naturally will in our rich Garden Ground, and to ripen Seeds after it all, the Plants will be exhauſted, and the Roots decay. Nature anſwers her Purpoſe by the Quantity of Seeds, which falling, produce more; but thoſe who would preſerve the old Plants, muſt prevent this, by ſtopping this exuberant ripening of Seeds.

Octob. We have obſerved before, that 'tis not the Production of Flowers, but the ripening of the Seed, which exhauſts the Roots of Plants. The Gardener may therefore indulge himſelf with a large Bloom from this *Lavatera*, if he will be careful to pick off the Flowers when they begin to ſet. The old Plants may thus be kept alive a great while, but they never flower ſo perfectly as the third Year.

As they are eaſily managed by the Method we have given, it will be better to raiſe ſome young Stocks, than to depend upon the old ones too long.

7. GIANT LUPINE.

Pl. 55. Fig. 7. The *Lupines* are a large Aſſortment of Plants, ſpecious, and of extreamly eaſy Culture. They are worth a Place in the beſt Gardens from the Variety they are capable of giving by their ſingular Form and Colours, and none deſerves that Notice more than this; the talleſt and moſt ſpecious of them all.

The Generality of thoſe who have written on Plants have deſcribed it; they call it *Lupinus major*, and *Lupinus cæruleus hirſutus*. C. Bauhine, *Lupinus peregrinus major ſive villoſus cæruleus major:* the great foreign Lupine, or great blue hairy Lupine.

Linnæus, more correct in his ſpecifick Names, calls it *Lupinus calycibus, verticillatis appendiculatis, labio ſuperiore inferioreque integris:* Lupine with the Cups placed in Circles round the Stalk, and increaſed by Appendages, and with the upper and lower Lip of the Flower both undivided. This Name abſolutely diſtinguiſhes the Species, whereas thoſe form'd on the Colour of the Flower, and other ſuch accidental Marks, are frivolous; for the Colour is changeable, and the ſame Seeds will produce red, blue, and white; nor are the other Characters of the old Authors better eſtabliſh'd.

The Root is compoſed of many thick white Fibres.

The Stalk is firm, upright, branched, of a pale green, and lightly hairy; it riſes to a Yard in Height, and is beſet with numerous Leaves.

Theſe have long Footſtalks, pale, and hairy as the main Stem, and they are of the finger'd Kind: each compoſed of five, ſeven, or more Parts, which are join'd to the Footſtalk all in one Place; and are oblong, narrow, hairy, and of a faint ſilvery green.

The Flowers are very elegant, and are diſpoſed to great Advantage; they are placed at Diſtances upon the Stalk in circular Tufts, and open in Succeſſion.

Each has its Cup form'd of one Leaf, ſplit into two Parts, and hung with a ſmall Appendage.

The Flower is papilionaceous, and regular in that Form.

The Vexillum is rounded and compreſſed, and has the Edges turn'd back.

The Alæ are oval, and nearly equal to the Vexillum in Length; they converge below, and are not fix'd to the Carina.

The Carina is ſplit at the Baſe, and falcated upwards; and is narrower than the Alæ, and undivided.

The Filaments are ten; they are form'd into two Bodies in the lower Part, and looſe in the upper; they have a bend upwards, and five of them are crown'd with oblong, and the other five with roundiſh Buttons.

The Style is ſingle, and of the Length of the Filaments, and is crown'd with an obtuſe Head.

The Fruit is a large compreſſed Pod, tough, pointed, and containing in one Cell numerous large Seeds.

The Claſs is found by obſerving the Coaleſcence of the Filaments: they are arrang'd into two Bodies, and this is the Character of the *Diadelphia*.

The Number of the Filaments which is ten, places it under that Order, which comprehends the *Decandria*.

It is a Practice with Linnæus, where there is ſome other claſſical Character, to make the Number of Filaments the Mark of a ſubordinate Diſtinction.

Culture of this Giant Lupine.

The Plant is a Native of the warmer Parts of *Europe*, but it acquires its great Stature and large Flowers by Culture. It is an Annual, and is eaſily raiſed: the Seeds put into the common Ground in Spring, bringing it forward, without any more Care than Weeding and Watering: but to raiſe the Plants in Perfection, they muſt be allow'd due Diſtance.

There is alſo a farther Article to be conſider'd, which is the ſowing a particular Parcel for Seed. We ſhall give the Method of doing both.

In the Beginning of *March* let a warm, dry, and well ſhelter'd Border be dug up, and plant ſome good Seeds of this Lupine in Rows a Foot aſunder, and at the Diſtance of four Inches from one another in the Rows.

Octob.

When the Plants come up, let them be weeded and water'd; and when it is ſeen which are the ſtrongeſt and fineſt, let two out of three be taken up, leaving theſe ſtout Plants. They will thus ſtand at a Foot aſunder, and this will be a proper Diſtance for their flowering. The Earth muſt be broke about them from time to time, and they muſt have frequent Waterings.

Theſe will ſhew all the natural Beauty of the Plant; and the Flowers will be elegant whether in the Bud in their full-blown Perfection, or in the firſt Approaches to decay; for the Colour often changes in that Time, and the different Flowers upon the ſame Plant afford a great deal of Variety.

We have obſerved, that beſide theſe Plants raiſed for the Summer flowering, it will be proper to bring up a particular Set for Seed: thoſe who are accuſtom'd to ſowing this kind of Lupine, will know the Reaſon. The Seeds are very ſubject to miſcarry: this is owing to their not being perfect; and the true Source of the Miſchief is, that the Pods did not ripen well upon the original Plant.

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This is the Caſe with moſt of the *Giant Lupines* ſown in Spring; the Seaſon is too cold for their ripening the Seeds, by that Time they have form'd themſelves in the Pod.

The Method to have good Seed is to ſow the Plants for that Uſe in Autumn: a very warm Spot muſt be choſen for this Purpoſe, perfectly ſhelter'd from the cold Quarters, and the Soil muſt be dry.

In this Place, in *Auguſt* ſow ſome of theſe *Lupines*, and if there do not fall natural Showers, encourage the Shooting of the Plants by Watering. They will get ſo much Strength before Winter, as to bear all the Severity they will be expoſed to in ſuch a Spot; and flowering early the next Year, they will ripen their Seeds during the Heat of Summer: theſe will never fail to produce perfect and fine Plants.

SECTION II.

The Conſtruction of the forcing Frame for ripening of FRUIT.

THIS and the few ſucceeding Numbers of our Work, will give us Opportunity of entering upon the particular Articles of the Gardener's Profeſſion, as we before explain'd to him all the general Management. After the Stove which produces the Pine-apple in *England*, the forcing Frame for the bringing forward the more common Kind of Fruit demands its Place; and will eaſily be explain'd to the attentive Gardener.

The Trees muſt all have the Advantage of a Wall, and their bloſſoming is to be brought forward by artificial Heat: the moſt familiar Way is by means of Dung: it requires a large Quantity of that Manure, and the Aſſiſtance muſt be at Times renew'd; but Dung which has loſt its Heat, is not deprived of its Virtue. The Dung which has been uſed for theſe will anſwer other Purpoſes, and the real Expence is leſs than imagined.

As the Dung is to be laid behind, there muſt be a Glaſs-work in front of the Wall, and on the due Management of theſe depends the whole Buſineſs.

In order to ſet out right, the Gardener ſhould know that three Years are required to re-eſtabliſh thoſe Trees in Strength which have been forced by theſe Means; therefore whatever be the Quantity he intends to force each Year, four Times ſo many Trees, and the due Extent of Wall for them, is to be allowed for the whole.

On this Principle let him begin the Work; he muſt chuſe a Part of the Ground which has the full South Sun, and is well defended from all the cold Quarters. Here let him build a Wall eleven Foot in Height, and cover the South Surface with good Plaiſter laid on ſmooth, and white waſh'd.

This is a Method the Gardener does not know, but the Reaſons of it may be ſeen in what we have ſaid of Stoves, and Experience ſhews its great Utility; four Feet and a half from the Bottom of the Wall let there be drawn a Line as a Mark of the Border. Let this be well dug up, and if not naturally a good Soil, let it be improved as we have directed on a former Occaſion.

Let a Ledge of firm Oak Board be laid along the Line, or outer Edge of the Border; and let it be ſo thick as to admit a Groove, in which the Wood-work of the Frame of ſome Glaſs Lights may move.

Let as many of theſe Glaſs Lights be made as will cover one fourth Part of the Wall; that being the Quantity to be uſed at once: and let theſe be very well framed.

The Breadth of each may be at the Pleaſure of the Gardener, for Convenience of moving, but their Height muſt be ſuch as will reach from the Ledge of Oak in front of the Border, to the Top of the Wall.

At the Top there muſt be another Frame-work of firm Wood, for receiving the upper Edge of the Lights, and this may project five Inches from the Surface of the Wall. All muſt be cloſe as in the Greenhouſe, and Stove-work; and there muſt be at due Diſtances, Ribs of Wood ſlanting from the Top of the Wall to the Frame, to ſupport the Lights from bending inwards.

This being prepared, the whole is in Readineſs for Service. The two Ends muſt be cloſed in ſuch Manner as to admit a Door in each, and this muſt be made firm, ſtrong, and to ſhut cloſe.

The

Octob.

The Trees being thus defended before, are to be forced to bloſſom and fruit at an early Seaſon, by the Heat of Dung behind. The firſt Time of applying this muſt be the third Week in *November*; and from that Period to their ripening, the Heat muſt be kept up ſucceſſively by freſh Quantities of Dung.

The common Horſe Dung, with the Litter among it, is to be uſed for this Purpoſe; and the Preparation it requires is only to be thrown up in a Heap for five Days before, that the Fermentation may be equal in every Part.

When it is thus ready, and the Frame is in order, let the Gardener draw a Line along the Ground behind the Wall; that is, on its North Side, at five Foot Diſtance from its Baſe. The Dung is to extend as far as this, from the Wall at the Bottom, and is to be carry'd up gradually ſloping to the Top; but it is to be there eight and twenty Inches thick.

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About five Weeks after this let a freſh Parcel of Dung be got ready, laying it in a Heap as the firſt; and when it has lain the due Time to heat equally, let the old Dung be removed from the Wall, and this put in its Place, piling it up as the other, juſt to the Top of the Wall, for the Nature of it is to ſhrink down. This is to be repeated when there is Occaſion, and this is all that is required in the general Conſtruction of the Frame.

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CHAP. II.

Of the Kinds and Management of the TREES.

THE Fruits proper for forcing are the early Cherries, Apricots, Peaches, and Nectarines. Others may be planted for this Service, but theſe are the propereſt and moſt valuable. Gooſeberries and Currants have been recommended, but one ſmiles at the Thought of beſtowing this Attention and Expence upon ſuch indifferent Fruit: it has alſo been adviſed to plant Strawberries upon the Borders. The other Thought was only ridiculous, but this is hurtful: the Gardener muſt be caution'd againſt it.

Nor need we add after this, that the planting Roſes and Tulips is a moſt falſe Practice. This robs the Trees of that Nouriſhment they very much want; and the Damage theſe ſlight Things do the Fruit, is much more than their own Value. It is the Error of little Minds to do many Things together, not regarding that none can be done well in that Manner.

We have directed a Method of forcing of Strawberries in Frames; and the Flowers ſome direct to be raiſed on theſe Borders, will ſucceed much better in their proper Beds.

As theſe are deſign'd for the early ripening of Fruit, let them be devoted only to that Purpoſe; and the Trees being manag'd well, and allowed this Reſpite, will thrive perfectly. The Cherries will be ripe in *April*, and the other Fruits at a proportion'd Seaſon.

The Trees ſhould be planted at ten Foot Diſtance. This Quantity of the Wall they will very well cover; and if they were ſet at greater Diſtances, it would only increaſe the Expence, by enlarging the Quantity of Glaſs-work without any proportion'd Advantage.

When the Weather is mild, a little Air muſt be admitted, by opening the Door oppoſite to the Quarter whence the Wind blows; and before the Buds appear, gentle Showers ſhould be admitted as well as Air; but when the Seaſons grow ſevere, and the Buds are ſet, all muſt be kept cloſe; the Heat of the Dung muſt be often examin'd, and well regulated, and the Gardener muſt go in at that Door which is leaſt likely to admit the cold Wind.

When the Weather is mild, it will be adviſeable to open both Doors, and give the Air a free Circulation. The Time of the Day for this is about Noon, and the Opportunity muſt be taken when there is little or no Wind.

This is all that can be allow'd during the Severity of Winter; but in Spring the ſame Method muſt be follow'd as in the Beginning of the Seaſon. In mild Days the Glaſſes muſt be a little open'd to admit the Air and Showers.

The Fruit will all be ſet by this Time, and conſequently the Danger will be over which would have attended opening the Glaſſes, when the Trees were in bloſſom; for it is conſtantly found, that any Wet upon Trees in bloom, in theſe Frames, is deſtructive.

The later Fruit ripens, the more Pains are required to bring it to that Perfection; ſome have found three Times changing the Dung to be ſufficient for Cherries; four I have generally ſeen ſucceed better; and for the Peaches there will be required about ſix. The beſt Time of Pruning is the Beginning of *October*, and all the Branches muſt be nailed cloſe to the Walls.

EDEN:

A

COMPLEAT BODY of GARDENING.

NUMBER LVI.

For the ſecond Week in *OCTOBER.*

SECTION I.

FLORA, or *the* PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. EVER-GREEN CENTAUREA.

Octob.

Pl. 56. Fig. 1.

THIS is an elegant Plant; ſingular in the holding its Leaves through Winter, and worthy a Place in any Garden, though it do not come within the Rank of Flowers. MORISON has called it, *Jacea Luſitanica ſempervirens:* Ever-green Portugal Knapweed; and DODART adopting the ſame generical Name, retains alſo the ſpecifick Epithets, adding another from its Stature, *Maxima:* the greateſt ever-green Portugal Jacea.

LINNÆUS found in few Inſtances more Trouble than in the Arrangement of the *Syngeneſious* Plants, of which this is one. He has eſtabliſhed a large Genus under the Name *Centaurea,* and in that he comprehends the preſent Plant: he calls it, *Centaurea calycibus, ciliatis, foliis lanceolatis ſuperne-ſerratis:* Centaurea with ciliated Cups, and with the Leaves lanceolated and ſerrated on the upper Part: but this laſt Character is often loſt in the Plant when kept in good Ground.

The Root is long, thick, woody, and hung with a few Fibres.

The firſt Leaves are numerous, long, narrow, ſharp-pointed, and broadeſt in the middle: their Colour is a duſky green, and ſometimes they are ſerrated, but not conſtantly or regularly.

The Stalk is five Foot tall, firm, and full of Branches: it is highly ridged, otherwiſe round, and is diverſified with Streaks of a browniſh red and green.

Octob.

Its Leaves reſemble thoſe from the Root: they have no Footſtalks, they are long, narrow, and lanceolate; their Colour a pale green.

The Flowers ſtand in ſcaly Heads at the Tops of all the Branches, and on ſhort leafy Footſtalks from the Boſoms of the upper Leaves: they are large, and of a dingy red.

The general Cup is ſwoln, roundiſh, and made up of numerous Scales, with the Tops edged with firm Hairs of a rediſh Colour.

In this Cup ſtands numerous Floſcules of two Kinds, not tubular and ligulated as in the *Diſcoide* Kinds; but both tubular, though of different Form.

In the Diſk or central Part are a Number of Flowers, which have both the male and female Organs. Theſe are oblong, and have the Baſe tubular and very ſmall: the Verge is ſwoln and oblong, and divided at the Extremity into five narrow upright Segments. In the outer Part of the general Head ſtand a ſmaller Number of Floſcules, which have only female Organs; theſe are larger than thoſe of the Diſk, and have the tubular Part narrow, but gradually dilated, ſomewhat bent; and the Verge oblong, oblique, and irregularly divided into Segments. Thus is formed the general Head of this Flower.

In the Floſcules of the Diſk the Filaments are

Octob. are five: they are very ſhort and delicate; and their Buttons are very long, and connected into a tubular Body. In the midſt of theſe is placed a ſingle Style, and this is terminated by an obtuſe Head with a fine ſplit Point. It riſes from a ſmall Rudiment of a Seed placed beneath the Flower.

The Floſcules on the Verge have neither Filaments nor Style, Buttons nor Head; but there is a Rudiment of a Seed, as in the others, placed beneath the Flower.

The five tubular Buttons ſhew the Plant to be of the *Syngeneſious* Claſs; and as the Rudiments of Seeds under the female Flowers are always abortive, the Diviſion to which it belongs is that of the *Polygamia fruſtranea.* In many of the *Syngeneſia*, theſe Flowers, which have only female Parts, have them compleat, and the Seeds do not ripen in any others: theſe are the *Polygamia neceſſaria*, in others Seeds ripen equally after the Hermaphrodite Flowers of the Diſk, and thoſe female ones of the Rays: this is called *Polygamia æqualis*, but in this Plant the Form is altogether uſeleſs, and the Rudiments of Seeds under the female Floſcules anſwer no Purpoſe toward the Propagation of the Plant.

Culture of this CENTAUREA.

It is a Native of *Spain* and *Portugal*, where it is too common about Vineyards; and every where near cultivated Grounds, remaining green through Winter, and flowering the greateſt Part of the Year. With us it lives freely in Gardens, and requires no farther Care than the Choice of a warm dry Spot, and good digging of the Ground.

The Method of raiſing it is from Seeds. Theſe ripen very well with us, and ſhould be ſown in the Beginning of *April* on an open Spot of Ground: when the young Plants come up, they muſt be weeded, and at Times watered; and when they are three Inches high, they muſt be tranſplanted into another Bed in the Nurſery, allowing them a Foot Space aſunder.

In the latter End of *September* they muſt be removed into the Garden, and placed where they are to remain. They muſt be dug out deep, and with a good Ball of Earth; and there muſt be a large Hole opened for their Reception. They ſhould be allowed a Yard's Diſtance, and the Ground being kept weeded about them, and conſtantly refreſhed with Water when too dry; they will flower all the ſucceeding Summer, till late in Autumn, with great Profuſion.

To promote this, the Flowers ſhould be nipped off as ſoon as their Beauty is paſt; except where a few are left for Seeds. This ſhould be done once in two or three Years, for the Plants flower much more elegantly the ſecond and third Seaſon than afterwards.

The Gardener underſtands by what we have had Occaſion often to ſay on this Subject, that this is the proper Management of all the large, robuſt, hardy Plants, taken from Fields into the Garden. Octob.

2. BROAD LEAVED SCABIOUS.

Pl. 55. Fig. 2. This is one of thoſe Plants which owe their Place in our Gardens to the Singularity of their Aſpect rather than their Beauty.

The botanical Writers have a long Time been acquainted with it, and though the Manner of Growth and Flowering be very ſingular, the Characters of the *Scabious* Kind are ſo thoroughly impreſſed upon it, that they have all called it by that Name. C. BAUHINE has called it, *Scabioſa ſtellata folio non diſſecto*; DODART, *Scabioſa ſtellata prolifera:* ſtellate Scabious with undivided Leaves, and proliferous Stellate Scabious. This laſt Name has been given it from the Growth of the young Shoots from the Baſe of the old Flowers, as in the common Cudweed, the other from the Diſpoſition of the Flowers.

LINNÆUS refers it as the reſt to the *Scabioſa* Kind, and diſtinguiſhes it from the other Species by the Addition of *Corollis quinquifidis, foliis lanceolatis ſubintegerrimis:* Scabious, with the Floſcules divided into five Segments; and the Leaves lanceolate and nearly entire.

The Root is long, and hung with many Fibres.

The Stalk is round, firm, upright, ſimple, and covered with a light Down.

The Leaves are placed in Pairs, they have ſhort broad Footſtalks which ſurround the main Stalk at the Bottom; and theſe are larger to the lower than to the upper Leaves.

The Leaves themſelves are oblong, conſiderably broad, of a pale green, ſoft to the touch, a little hairy, and lightly rib'd: they are broadeſt toward the middle, ſharp-pointed, and lightly indented along the Edges.

The Flowers are large, naturally of a whitiſh Colour, tinged a little with green and with purple. Sometimes they are perfectly white; and ſometimes they are throughout ſtained with a light Tinge of the Red. They are compoſed of numerous Floſcules arranged in a Kind of Head; and they are placed in the Diviſions of the Branches, and at the Tops of the Side Shoots.

The Progreſs of the Growth is this: a large Flower appears upon the Top of the Stalk; and on each Side of this there ſoon after riſes a Footſtalk: each of theſe is decorated with two or three Pairs of Leaves; and has at its Top another Flower: from the Baſes of theſe riſe other Shoots, as at firſt uſually two, ſometimes four; and the Flowers at length appear

fixed

Octob. fixed in their Divarications, or Clefts of the Stalks and Branches.

The general Cup, which ſurrounds and ſupports the Head of Floſcules, is formed of numerous Series of Leaves which encloſe the Receptacle, and are fixed upon it; the inner ones are ſmaller, and the outer gradually larger.

Beſide this each Floſcule has two ſeparate Cups, an outer and an inner, both fixed to the Rudiment of the Seed. We have not before had an Opportunity of deſcribing the *Scabious* Flower: it is ſingular, and the Characters, though particularly plain and obvious in this Species, are the ſame in every Kind. The outer Cup is ſhut, folded, and of a membranaceous Subſtance; the inner Cup is formed of one Piece, divided deeply into five pointed Segments.

Each Floſcule is formed of a ſingle Petal, long, hollow, upright; wider toward the Mouth, and there divided into five irregular Segments, two ſmaller and three larger: the large ones ſtanding outward.

The Filaments are four in Number, they are very ſlight and feeble, and they are crowned with oblong incumbent Buttons.

The Style is ſingle, ſlender, and of the Length of the Floſcule; it riſes from a Rudiment of Seed placed underneath the Receptacle of the Floſcule, and covered with a particular Scabbard in the Manner of a Cup: the Head is obtuſe, and obliquely nip'd.

The Seeds, which follow, are oblong, ſurrounded with their proper Membrane, and crowned with their Cups; and they are fixed to a common Receptacle of a convex Form, and ſeparated by the Leaves of the Cup.

The four Filaments refer this Plant to the *Tetrandria*, the fourth Claſs in the *Linnæan* Syſtem; and the ſingle Style places it among the *Monogynia*.

The haſty Obſerver might be apt to place it among the *Diſcoide* Plants, and the *Scabious* has been uſed to ſtand near them, if not among them, in the old Arrangements of Botany: but in the claſſical Diſtinctions of Linnæus being deduced from the Filaments according to their Number and Diſpoſition, this is altogether ſeparated from the *Syngeneſia*, which have five Filaments with coaleſcent Buttons; and is brought to the ſimple Claſs of the *Tetrandria*. Octob.

Culture of this Scabious.

It is a Native of the Eaſt, and of ſome of the warmer Parts of *Europe*, but it bears our Seaſons very well in the common Ground; ſo much Regard being ſhewn to its natural Climate, as to allow it a warm Spot and a dry Soil.

It is to be raiſed from Seed, and this ſhould be ſown in the Nurſery: the Seedling Plants, when big enough to remove, ſhould be at once brought into the Garden.

The Seed ſhould be ſaved from a vigorous Plant, and carefully hardened and preſerved through Winter.

In the Beginning of *April* it muſt be ſcattered over a new-dug Piece of Ground in the Seminary, and when the Plants riſe they muſt be thinned; and weeded, and often watered.

When they have ſix Leaves, let as many be taken up as it is intended to preſerve, and planted in a warm Part of the Garden. They ſhould ſtand at a Foot Diſtance, and they muſt be weeded and watered as the other Plants; they require no other Management: only that thoſe, from which Seeds are intended to be ſaved, ſhould not be permitted to ripen many Flowers. The principal or firſt Flower ſhould always be preſerved for this Purpoſe, and about two others.

3. PURPLE TANZY-LEAVED ACHILLÆA.

Pl. 55. Fig. 3. The common Yarrow that flowers by our Way-ſides, when Accidents of Growth give a Bluſh of red to the Flower, would be thought, if found in *America*, a glorious Acquiſition to our Gardens.

'Tis to this Genus, among which he has mixed ſeveral other Plants, Linnæus has given the Name *Achillæa*; and the Species of which we treat in this Place, has more Elegance of Leaf than the common *Yarrow*, and a little crimſon in the Flower.

The old Authors have not been unacquainted with the Plant. C. Bauhine calls it in a lower and poorer State, *Tanacetum minus album odoræ camphoræ*: ſmall white-flower'd Tanzy, with a Smell of Camphire. Tragus much better named it, *Millefolium nobile*: the noble Yarrow; and Moriſon has called it, *Millefolium Tanaceti foliis*. Dodart, *Millefolium montanum purpureum tanaceti foliis*: purple mountain Yarrow, with Tanzy Leaves.

Linnæus calls it, *Achillæa foliis bipinnatis pinnis diſtantibus, utrinque ſubſeptenis obtuſiuſculis*: Achillæa with Leaves doubly pinnated, the Pinnæ diſtant and obtuſe, and about ſeven Pairs on each Rib. The Name is very expreſſive, but Culture varies the Number and Diviſion of the Leaves, tho' they keep in general this Form.

The Root is long, thick, and hung with many Fibres: it divides toward the Top into ſeveral Heads, and each ſends forth many elegant Leaves and a firm Stalk.

The Leaves are long, large, and elegantly divided: each is compoſed of numerous Pinnæ fixed on the two Sides of a middle Rib, which is terminated by an odd one. Theſe Pinnæ are not ſingle little Leaves, as in many Caſes, but they are themſelves divided by deep Inciſions in the pinnated Manner, and ſtand remote, ſo that the whole Leaf is extremely elegant. The middle Rib is ſoft, of a purpliſh Colour toward the Ground, and lightly covered with a grey ſcattered Down. The whole Leaf is ſix or eight Inches long, and has a ſtrong Smell not unlike that of Camphire, and with ſome Flavour of the Tanzy, which it reſembles alſo in Diviſion, and a general Form.

The Stalk is round, upright, not jointed; ſtriated and covered with a light greyiſh Down. It is red toward the Ground, but in the upper Part of a whitiſh green.

The Leaves on this are numerous and very elegant: they ſtand alternately; with young ones in their Boſoms, and they are long, narrow, and pinnated. The Pinnæ are very diſtinct, though cloſe placed; and though they are not divided again down to the Rib, as in the radical Leaves, they are yet deeply and elegantly indented.

The Flowers terminate the Stalk in a large irregular Umbell, and their Colour is ſometimes white; but properly, and always when the Plant is well managed, a delicate pale Crimſon.

As the general Umbell is compoſed of many ſmall Flowers, each Flower is in the ſame Manner compoſed of many Floſcules arranged in a common Cup. This is of an oval but ſomewhat oblong Form, and is compoſed of numerous oval Scales, pointed and placed on one another as Tiles.

The Floſcules in each Flower are of two Kinds, tubular and ligulated: the tubular form the Diſk, and have compleat male and female Organs of Impregnation; the ligulated are a Kind of Rays in the Verge, which have only female.

The tubular Floſcules have a Rim cut into five expanded Segments. The ligulated Floſcules of the Verge are broad, expanded, and cut into three Parts at the Top, the middle one of which is ſmaller than the others.

In the tubular Floſcules are placed the Filaments; they are five, and they have oblong Buttons which coaleſce and form a Cylinder, with a ſingle ſlender Style of the Length of the Filaments, riſing from a ſmall Rudiment, and crowned with an obtuſe Head.

In the female Floſcules there are no Filaments, but there is underneath them a Rudiment of a Seed, from which riſes a ſingle Style with two obtuſe Heads which turn back.

The Seeds ripen equally after the tubular and ligulated Floſcules; and they are placed on an oblong and ſomewhat conic Receptacle; and ſeparated by a Kind of filmy Scales.

The Claſs of the Plant is ſeen in the Coaleſcence of the Buttons into this cylindrick Form: it is the Mark of the *Syngeneſious* Tribe. And as the Seeds under the tubular Floſcules ripen as well as thoſe with the female, the Subdiviſion to which it belongs is that of the *Polygamia ſuperflua*.

Culture of this ACHILLÆA.

The Plant is a Native of many Parts of *Europe*, nor is limited to thoſe in warmer Latitudes, but it flouriſhes beſt in them; and naturally affects a looſe, deep, and not too rich Soil.

To raiſe it in Perfection in the Garden we muſt copy this.

The Seeds ripen freely with us, and ſhould be ſav'd with Care, hardened on a Shelf, and kept in Bags till Spring.

Let them be ſown upon a Piece of common Ground in the Nurſery; and when they riſe, thinned, weeded, and watered.

In *May* five or ſix of the fineſt Plants ſhould be taken up, and brought into the Garden. They will not flower the ſame Year; but their Leaves are very handſome, and they will ſucceed better when they have only this one Remove than if they had more. To improve them to the utmoſt the Mould ſhould be dug out where they are to ſtand in the Garden, and ſome freſh Paſture Earth put in its Place.

They will flower the ſucceeding Summer, and remain good three or four Years, but at the End of that Time it is beſt to have a freſh Succeſſion; the Seed of which ſhould be ſaved from the ſecond Year's Flowering, for they never are ſo perfect from any other. In all States the Plant is of diſtinguiſhed Elegance.

4. VARIEGATED ROUGH SILENE.

Pl. 56. Fig. 4. Our Student is to be informed, that under the generical Name *Lychnis*, the earlier Authors had brought together a great Number of Plants utterly diſtinct from one another in thoſe Characters on which the Eſtabliſhment of Genera depend. This LINNÆUS ſaw: he reformed the Abuſe, and from one imaginary Genus, *Lychnis*, made many real Genera all truly diſtinct.

One of theſe is the *Silene*, to which the elegant and ſingular little Plant, here deſcribed, belongs.

It is mentioned by the others under the general Name *Lychnis*, and the Diſtinction is taken from the peculiar Roughneſs of the Leaves and Variegation of the Flowers. DODONÆUS called it, *Lychnis hirſuta minor flore variegato*; a Name moſt others have adopted. LINNÆUS, refering it to his new Genus *Silene*, calls it *Silene, petalis integerrimis ſubrotundis; fructibus erectis alternis:* Silene, with rounded and undivided Petals, and with erect Seed-veſſels in alternate Order on the Stalks.

The Root is ſlight, oblong, and hung with a few Fibres.

1 Evergreen Centaurea

2 Broad leav'd Scabious

3 Purple Tanzy leav'd Yarrow

4 Vairegated rough Silene.

5 Yellow Oriental Cornflower

6 Golden Cotyledon

Octob. The Stalk is round, rough, jointed, a Foot and half high, and divided into many Branches.

The Leaves ſtand two at a Joint: they have no Footſtalks; they are oblong, obtuſe, largeſt at the End, and rough. Their Colour is a pale green; and the Hairs to which they owe their Roughneſs, are white, firm, and ſtiff.

Toward the Tops of the Branches the Leaves are narrower, and they ſtand not oppoſite but alternately, and from the Boſom of each there riſes a ſingle Flower.

At the Summit of the Stalk theſe Leaves ſtand cloſe, and are but ſo many Rudiments; and, conſequently, the Flowers are diſpoſed there in a ſhort Spike, or little Tuft; but lower down, as the upper Part of the Stalk lengthens by the continued Growth of the Plant, the Leaves ſtand much more diſtant, and the Seed-veſſels are placed upright, and perfectly diſtinct in their Boſoms.

The Flowers themſelves are ſmall, but extreamly pretty; they are of a deep red, but edged with a Border of white, regularly continued round each Petal; and the extream Edge is fring'd with a Series of ſtiff Hairs.

The Cup is thick, and of a clavated Form, permanent, compoſed of a ſingle Leaf, and dented in five Places at the Top.

The Body of the Flower is form'd of five Petals: theſe have narrow Bottoms of the Length of the Cup, which have a ſingular kind of additional Edges: the broad Parts of theſe Petals expand themſelves regularly and freely. The opening into the Hollow of the Flower is defended by a kind of Crown form'd of ten Scales; two of theſe riſe from the Neck of each Petal, and this Corona is the Nectarium of the Flower.

The Filaments are ten; they are pointed, and crown'd with oblong Buttons. Underneath is the Rudiment of the Fruit, of a cylindrick Form, and from this riſe three Styles longer than the Filaments; they are crown'd by Heads which turn from the Sun.

The Seed-veſſel is cylindrick, and is cover'd by the Cup; it is divided into three Cells, in which are numerous Kidney-ſhaped Seeds, this Seed-veſſel when ripe, burſts in five Places at the Top. Octob.

The Claſs of the Plant is ſeen in the Number of the Filaments; they are ten, and they refer it to the *Decandria*, the tenth in the *Linnæan* Syſtem. The three Styles refer it alſo to the *Trigynia*, the third Subdiviſion of that Claſs.

Culture of this SILENE.

It is an Annual, native of the warmer Parts of *Europe*; *Spain*, *Italy*, and the South of *France*, and is one of the common Weeds of their plough'd Fields and Vineyards. It is eaſily raiſed in our Gardens, and though when ſown in Spring, it decays the ſame Summer after flowering: it may be raiſed by ſowing in Autumn, and the Plants will flower earlier that Way, and better ripen the Seeds: but the beſt Way to keep a Succeſſion for the greateſt Part of the Summer, is to ſow it at both theſe Times.

Let ſome good Seed be ſaved from Plants which flower early, and ſpread upon a paper'd Shelf to harden.

Let it be divided into two Parcels, and one Quantity ſown in the latter End of *Auguſt*, and the other the Beginning of the *April* following. Both Parcels muſt be ſown in the Flower Garden, upon the Spots where they are to remain, for they do not ſucceed nearly ſo well when tranſplanted.

When the Plants come up let them be thin'd; and afterwards weeded and watered. They ſhould be left at about a Foot Diſtance, and thus they will flower in Perfection. Thoſe ſown in Autumn will blow early, and ripen good Seeds; thoſe ſown in Spring will come into flower when the others are over, and continue till the Froſts deſtroy them.

The Seeds ſhould be ſaved from the Plants of the Autumn ſowing; and particularly from thoſe which blow firſt, for they are always the ſtrongeſt.

5. YELLOW ORIENTAL CORNFLOWER.

Pl. 56. Fig. 5. The Gardener is not inſenſible, that from the common *Cyanus*, *Cornflower*, or *blue Bottle* of our Fields, cultivated in Gardens: there are many pretty Varieties in Colouring, and the Plant is much enlarg'd in Size. This is a *Cornflower* of a nobler Kind, and well worth his Notice.

He is to know, that the Name *Cyanus* is loſt in the modern Genus *Centaura*; one Species of which we deſcribed firſt in this Number; and that this is another. The old Authors however called it *Cyanus*, and by that Name he has hitherto heard it called by thoſe who raiſe it.

MORISON calls it *Cyanus orientalis major foliis oblongis flore luteo*; and DODART, *Cyanus orientalis flore luteo fiſtuloſo*: yellow fiſtulous flower'd Cyanus.

LINNÆUS does not allow it to be diſtinct in Species from the great oriental purple Kind; and referring that to the *Centaurea*, he adds as the Diſtinction of the Species, *Calycibus inermibus ſubrotundis glabris, ſquammis ovatis foliis ſinuatis*: ſinuated leav'd Centaurea, with rounded, ſmooth, and naked Cups form'd of oval Scales.

The Root is long, hard, woody, and hung with numerous Fibres.

The Stalk is round, firm, divided into many Branches, and a Yard in Height. The Colour is brown in general, deeply ſtain'd with purple toward the Ground, and on the extream Parts greeniſh.

The Leaves are numerous, long, and of a duſky green: they ſtand at Diſtances irregularly upon the Stalks, and they are deeply cut and divided; but in a wild Manner.

The Flowers are large, and of a fine delicate yellow: they terminate all the Branches; and beſide their Number and their Colour, both which are great Recommendations, they have a very highly perfumed Scent.

They are form'd as the Flowers of the firſt deſcribed *Centaurea*, but larger in all their Parts, and with ſmooth Cups. Theſe are compoſed of a ſmall Number of broad oval Scales laid one over another; and the whole Cup is ſwoln toward the Bottom, and gather'd up in a kind of Neck at the Top.

The Floſcules contain'd within this are of two Kinds, but all tubular: the greater Number are ſmall, and compoſe the Diſk; the others are much larger, and make the Verge.

The Floſcules in the Diſk have each five ſhort Filaments, with long Buttons, which coaleſce into a Cylinder: they have alſo the Rudiment of a Seed underneath, and a Style: the larger, or Female Flowers of the Verge, have only the Rudiment of a Seed underneath, and that abortive.

The Claſs and Place of the Plant are known from theſe Characters; the coaleſcent Buttons ſhew it to be one of the *Syngeneſia*, and the abortive Rudiment of the Floſcules of the Verge ſhew it to belong to the *Polygamia fruſtranea*.

Culture of this CENTAUREA.

It is an Annual: Native of the Eaſt, but hardy enough to bear the cold of our Climate through the whole Period of its Growth. The common Mould of the Garden is too rich for it; the beſt Compoſt is a Mixture of equal Parts of this and Paſture Mould.

Let ſuch a Mixture be made in the End of *March*, and thrown into a warm Spot of the Garden.

Let the Surface be levelled, and Seeds ſaved the preceding Autumn be ſown upon this, pretty thick: when the Plants come up, let them be thin'd, and encouraged by frequent Waterings. They are never to be removed out of this Spot; but from Time to Time the weakeſt are to be pulled up, till thoſe favourite Plants which remain have a Yard Diſtance.

Let not the Gardener think the Ground waſted upon them in this Manner: there will be more Flowers on four Plants thus manag'd, than upon ten in the common Way; and the Plants themſelves will be handſomer, and ſhew themſelves the better.

They muſt be weeded frequently, and the Earth at Times broke between them; and one Plant being marked for Seed, Care muſt be taken that it do not exhauſt the Root, by producing too many Flowers.

The ſtrongeſt Plant ſhould be ſelected for this Purpoſe, and this is uſually the firſt that comes into Flower: the Seed ſhould be gather'd when juſt ripe, and kept till Spring.

6. GOLDEN COTYLEDON.

Pl. 56. Fig. 6.

Few Plants can better claim their Place for Singularity than the *golden Cotyledon*; nor is that its whole Recommendation. The Flowers are numerous, and ſo well diſpoſed, that the Cluſter of them never fails of pleaſing even the incurious.

The old Authors were acquainted with it. RAY has copy'd from MORISON, as he from others, the Name *Cotyledon radice tuberoſa longa, repente*: Cotyledon with a long, creeping, tuberous Root. CAMERARIUS has called it, *umbilicus repens*: and VAN ROYEN, *Cotyledon foliis peltatis*: Cotyledon with Shield-like Leaves.

LINNÆUS preſerves the ſame generical Name, and adds as the Diſtinction of the Species, *foliis cucullatis, ſerrato-dentatis, alternis, caule ramoſo floribus erectis*: upright, flower'd, branch'd Cotyledon, with cucullated Leaves indented deeply at the Edges, and thoſe on the Stalk placed alternately.

The Root is long and thick; it runs under the Surface, and is brown on the Outſide, white within, and hung with many Fibres: from ſeveral Parts of it there alſo ſtick out little Tuberoſities, which ſend out Fibres of their own, and run every Way; encreaſing the Plant abundantly.

In Autumn appears a Cluſter of beautiful Leaves; and in Spring when they decay, riſes the Stalk; this is a great Recommendation of the Plant, that it has two States of Beauty; for the Leaves which continue green during Winter, are remarkably diſtinguiſh'd by their Form and Colour. Eight or ten of theſe form the Cluſter; they have long Footſtalks, and they riſe tolerably erect.

The Footſtalks are thick, fleſhy, hollow'd, and purple toward the Ground.

The Leaves are rounded, but they are cut in deep at the Inſertion of the Stalk; this not being fixed under the Leaf, but at the Edge within this deep Nick: the whole Edge of the Leaf is deeply and irregularly indented. Its Subſtance is thick, fleſhy, and full of Juice; and the Edges riſe all the Way from the Footſtalk on each Side, ſo that the whole is elegantly hollowed.

Toward Spring theſe often acquire a rediſh Hue, and this is the firſt Stage of their Decay: in *April* they fall to the Ground, and fade, and in their Place appears the Stalk for flowering.

This is robuſt and firm, round, juicy, and fifteen Inches high.

There are a few ſcatter'd Leaves on it: they are placed at Diſtances, and are of a Figure approaching to oval; of a firm Subſtance, dented at the Edges, and of a Pea-green Colour.

The Flowers terminate the main Stalk in a long thick Spike, a Hundred or more of them growing cloſe to one another; and frequently when the Plant is well manag'd, there will be thruſt from the Sides of the main Stem, two or more Branches, all loaded at their Tops in the ſame Manner with thick ſet Flowers.

The Flowers are ſingly ſmall, but their Colour is an elegant yellow, and in theſe vaſt Cluſters they are ſufficiently conſpicuous. Each Flower has its Cup, which is form'd of a ſingle Leaf, cut at the Top into five Segments.

The Body of the Flower is form'd alſo of a ſingle Petal, tubulated, bell-ſhaped, and cut at the Verge into five Segments, which turn back.

The Filaments are ten; they are ſmalleſt toward the Top, they riſe ſtrait upright, they are of the Length of the Flower, and they are crown'd with upright Buttons, mark'd with four Furrows.

There are five Rudiments at the Baſe, and as many Styles riſe from them. The Rudiments are long and thick; and the Styles are of the Form of the Filaments, but they exceed them in Length, and have ſimple Heads.

At the Baſe of each Rudiment there is alſo placed a ſmall hollow Scale; theſe conſtitute the Nectarium of the Flower.

The Flower is followed of five Capſules filled with ſmall Seeds.

The Number of the Filaments and Styles ſhew the Claſs, and Place of the Plant. The Filaments being ten, refer it to the *Decandria* of LINNÆUS, and the five Styles place it among the *Pentagynia*.

Culture of this COTYLEDON.

The Plant is a Native of *Spain* and *Portugal*, where it lives in the Cracks of damp Rocks, but it will thrive very well in the open Ground. Its natural Situation, however, may give the Gardener a Hint of great Service, reſpecting its Uſe.

In our good Gardens, there are Grottoes which make an elegant Appearance; and have never ſo much an Air of Nature as when they are decorated by proper Plants growing from the Crevices. This will be excellent for that Purpoſe, and it will very well ſucceed, if ſown upon ſome good Mould laid for that Purpoſe, in the Openings of the South Side of the Work.

For raiſing it in this Manner, nothing more is required than to ſcatter the Seeds upon ſuch Parcels of Mould in Autumn; covering them with a Quarter of an Inch of the ſame Soil, and upon that ſcattering ſome more of the Seeds, which are to be left naked.

There is an Uncertainty in the Growth of theſe Plants, and it is always prudent to take this double Chance for it.

In the common Way of Culture the Plant muſt have a very well choſen Part of the Garden to bring it to Perfection; and muſt in the ſame Manner be ſown upon the Spot where it is to remain.

Let the Gardener chuſe a Corner of the Ground where there is naturally ſome Dampneſs, and which is not expoſed to the cold Winds, or too much Sun.

In this Place let him bury a Quantity of rough Fragments of Stone, and fill up the Cracks with rich Mould. Let him ſcatter ſome of the Seeds upon this uneven Surface; and ſift over them a Quarter of an Inch of Mould. Let him upon this ſcatter ſome more of the Seeds, and lay upon them a Quantity of damp Moſs. Let a Reſerve of the Seed be made; and this ſowing having been perform'd in Autumn, let ſome of the ſaved Seed be ſcatter'd on between the Moſs, once in a Fortnight, from *March* to *May*.

There is no ſaying which Parcel of Seed will take; ſometimes it is one, ſometimes another; and this according to Chances, of which we know nothing: from ſuch repeated Sowings ſome Plants will come up, and they will flower the ſecond Year.

After this they need only be left to Nature, for they will take Care of themſelves, and from their ſcatter'd Seeds there will never fail to be a Succeſſion of new Plants.

From this proper and original Bed, the Gardener may, if he pleaſes, remove now and then a Root into a Pot, or into ſome other Part of the Garden.

The Plants will ſucceed in Proportion as the Soil reſembles that where they were raiſed, but they will be no where ſo vigorous as on the original Spot.

One Caution it is neceſſary to give the Gardener, with reſpect to this, and other Plants of ſuch uncertain Growth, as the *Orchis* and *Serapias* Kinds: it is that if no Plants appear at the expected Time, he be not in haſte to break up the Ground; for there is no judging how long they may lie in the Ground for want of thoſe peculiar and unknown Accidents which promote their Growth; and yet retain their vegetative Quality.

In general, what I have obſerved of theſe Kinds is, that thoſe Seeds ſcatter'd upon the Surface, and left quite uncover'd, ſucceed better than ſuch as are ſown in what is called a more regular Manner. This is Nature's Method; and it appears that theſe ſmall Seeds more than others, need the Impregnation of Air and free Dews. However, in all ſuch Caſes, beſide the Quantity that is left upon the Surface, it is adviſeable to have a Parcel bury'd at a ſmall Depth under it: for the Winds may blow off great part of thoſe Seeds which were left uncover'd; and if this happen, the ſame Violence will lay bare ſome of the others, ſo there is ſtill the Chance.

SECT. II.

Of the Art of raiſing double FLOWERS.

WE enter in this Place upon one of the moſt nice, and at the ſame Time, of the moſt important Articles of the Gardener's Profeſſion; much labour'd, and worthy of much more Attention; but hitherto left in great Uncertainty.

We ſee the Variety in Nature, which we ſo difficultly procure by Art.

The Meadows ſhew us frequent Inſtances of what is found ſo difficult in Gardens: the double Ladyſmock, and double Crowfoot, we have deſcribed in preceding Parts of this Work; the Marſh Marygold is alſo found double among them; and ſo many more, that it would be tireſome to enumerate all.

Theſe Wantonneſſes of luxuriant Nature, we admire without underſtanding their Cauſes: and ſome have gone ſo far as to ſuppoſe, that becauſe Nature does ſomething in this Way, all we ſee is of her doing. Others ſeem to make eaſy, what to theſe ſeems impoſſible; and upon the whole, there is no Point in the Art of Gardening on which the Writers are ſo contradictory, or Practice is ſo various.

Our honeſt PARKINSON, who wrote to the beſt of his Knowledge, gives his Opinion flatly, that Art has no Power to raiſe double Flowers from ſingle: but that whatſoever is done, Nature alone has effected. That People finding Plants in the Field with double Flowers, have brought them into the Garden, and have increaſed them, but that the original Stock is all from Nature. On the contrary, the *Dutch* in common profeſs to know the Secret; and in their Writings, declare all Flowers may be doubled by good Culture.

They affect to diſcloſe the Method in ænigmatical Terms, as Chemiſts of old ſpoke of the Philoſopher's Stone; and preſume that they have taught Adepts in the Art, that which themſelves never knew.

It is eaſy to ſee that both theſe ſay too much: yet both have their Followers; even againſt Experience.

We ſee in contradiction to the *Engliſh* Writer, that we can at any Time raiſe double Stock Julyflowers, and double Flowers of many other Kinds, from the Seeds of ſuch as are ſingle; and we know that a Thouſand Trials have been made in vain upon other Plants, even by thoſe who boaſted that they knew the Secret. What neither Party have advanced, therefore it is plain is true altogether. Indeed the Reſearch lies too remote from common Obſervation, to have been purſued happily in the dark Times of Science.

Botany is now ſo much better underſtood, that there is more Hope of it; and from the now known Structure of the Parts of Plants, from Nature, and from Obſervation, the Subject may be traced with better Succeſs.

The right Courſe will be, firſt to examine what we ſee in Nature; and when we have traced the Cauſe, then it will be Time to have recourſe to Art and Imitation.

CHAP. I.

Of natural double FLOWERS.

WHAT we have ſeen in our own Country of Flowers, naturally double, may ſhew us in the firſt Place, that it is rather Nouriſhment than Heat (the two great Agents in Vegetation) which occaſions it.

Among the *Engliſh* Plants which we ſee with double Flowers wild, ten are found in Meadows for one upon a dry Piece of Ground.

The ſeveral Kinds already named, are all Natives of our Meadows; and I have obſerv'd, that where they have been double, the Soil has been both richer and moiſter than elſewhere.

Even abundant Moiſture will do it alone, for I have traced the double Ladyſmock over ſome Tracts of Land in the *Iſle of Ely*, where the Earth danced under the Feet, as in a Bog; and where it conſiſted of that little underſtood Subſtance, Turf: an Earth almoſt entirely without Mould.

On the contrary, we ſee that an enrich'd Soil alone, has nothing of this Effect. The Plants upon it will grow much larger than elſewhere, but 'tis the Leaves and Stalks, and not the Flowers, which have the Advantage.

'Tis the ſame Thing on abſolute Dung: there are Plants which will take their Nouriſhment ſolely from it, and they will grow to an uncommon Size; but 'tis in the general Habit, not in the Flowers in particular.

We ſcarce ſee or hear of ſuch a thing as a double Flower

Octob.

Flower on the Dunghil Plants. That this does not take the Effect of increaſing the Number of Petals, is evident in the Fields as well as Gardens; and in the ſame Manner what we have mentioned in regard to Moiſture as ſo obvious in this Effect in Meadow Plants, is confirmed in thoſe of the Garden.

The Ten Weeks Stock is a conſtant Inſtance: 'tis the Cuſtom to ſow this at a Seaſon when few Showers are expected; and as it grows thro' Summer with leſs Wet than thoſe Plants which are ſown in earlier Spring, the Flowers are generally ſmall and ſingle.

The Gardener does not endeavour to improve them by Waterings, for it has not been known before that it is the Effect of this, well managed to enlarge and increaſe the Petals of Flowers, but Nature often does it: wet Summers happen, and in theſe the Flower of that Stock is always vaſtly finer than in others; much larger on all the Plants, and in ſeveral double.

We ſee in this which is an Inſtance in Nature, though the Plant grow in a Garden, a Proof which all will own, though none have before attended to it for this Information, that Wet has a great Share in the doubling of Flowers.

Octob.

Let us conſider what this doubling is, and what are the common Operations of Nature in like Caſes, and we ſhall be the more convinced of it. We have ſhewn that this Encreaſe of Petals is from a Number abſolutely growing from the Receptacle of the Flower or of the Seeds; or from a Degeneracy of the numerous Filaments in other Kinds into Petals.

We ſee in the Graſſes a Tendency to leafy ſpikes: Grains ſhoot in the Ear, and Leaves of the Plant riſe round about them in Places where they do not uſually appear; or they riſe in Tufts at the Heads of the Stalks in the Place of Spikes.

The firſt is an Inſtance like that of the Growth of Petals in extraordinary Number from the Receptacle; and the other of vitiated Parts, for the Leaves ſhould have formed the Films and Huſks of the Ear.

The Graſſes have no Petals, therefore the Redundance muſt be in Leaves; and the Caſe is ſo far parallel: but on what Occaſions does this happen? Every Farmer knows. 'Tis not in our dunged Fields; but in rainy Seaſons. So much then is clear; that in the Work of Nature on this Head abundant Moiſture is the moſt obvious Agent.

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CHAP. II.

Of ripening Seed for double FLOWERS.

ONE great Cauſe of the ill Succeſs of thoſe who have attempted the Practice of doubling Flowers, has been from their taking up the Work too late. They think it is enough if they begin with the Seed: but we are to tell them, that a great deal is to be done before that, if they would rationally attempt this Buſineſs. We know how early in perennial Plants, the Bud for the ſucceeding Year's Flower is formed. We have ſhewn this, ſpeaking of the *Auricula*, and have directed a timely Care for that Reaſon; for all Improvement is to be attempted in perennials at the Period of forming the Bud: and in the ſame Manner all doubling of Flowers is firſt to be undertaken, at the Time when thoſe Flowers are about to be formed, from which the Seed is to be ſaved for the new Progeny. The Foundation is to be laid there; and the Work muſt be perfected by the Culture of the Plants raiſed from it.

Every Gardener knows the Advantage of changing Seeds with ſome Friend on whoſe Integrity he can rely: the beſt Way is, indeed, for two Perſons, who enter into ſuch an Intercourſe, to mark the Seed Plants in each others Ground at the Time of Flowering; and when the Seeds are ripened, to take off the Heads themſelves: thus there will be no Suſpicions of falſe Dealing from real Accidents, as may otherwiſe happen.

We will ſuppoſe the Gardener poſſeſſed of ſuch Seed; and that he raiſes his common Stock of Plants by it in the uſual Way: it is no Matter of what Kind, we write here of doubling Flowers in general, not of any particular Species.

When the Plants raiſed from theſe Seeds have acquired about a third Part of their Bigneſs, let him by all poſſible Means promote their free Growth: this is the Period at which the Buds of Flowers take their final Form.

Let him clear away the Surface of the Mould between the Plants to an Inch Depth or more, if that can be done without impairing the Roots; and in its Place let him ſpread ſome perfectly freſh and rich Garden Mould, or ſome of the Compoſt appropriated to the Plant. On this let him give a gentle Watering, and let this be repeated afterwards daily in ſmall Quantities. Always let him keep in Mind, that he is not now endeavouring to double for the laſt Time the Flowers of his Plants, but to feed and ripen the Seeds of thoſe Plants from which he expects ſuch a Stock.

Let only a few Flowers ripen upon each of theſe Plants; and let not the Root exhauſt itſelf by opening more than are intended to be ſet for Seeds; in the common Way the Flowers weaken one another, and Part of the Seed is always bad.

As the Seed which follows the firſt Flowers is the beſt, let theſe alone ſtand for it: when as many are opened (if the Plant be of the many flower'd Kinds) as are intended to be ſuffered to remain, let the reſt be taken off in the Bud. Let the Stalks be tyed up, and the Earth cleared to a good Diſtance round theſe Plants, and often broke with a Hoe; and watered.

Let the Growth of the Seed be well watched, and let it remain no longer on the Plant than 'till of the full Size, and a little hardened; then ſpread it on a Shelf or Table in an airy Place; and when it is well dryed in the Pods, ſeparate it; and dry it again looſe. Thus hardened, tie it up in Bags, and reſerve it till the Seaſon of ſowing. Let there be a large Quantity ſaved in this Manner; and if any imperfect Seeds appear among them, let them be pick'd out and thrown away.

There is nothing ſo hurtful in the raiſing theſe Plants for double flowering, as the Quantity of bad Seed uſually preſerved among the good: to this is owing the Abundance of bad Plants to a few fine ones. In the Way we direct the Seed to be managed, the bad will be much fewer; and the whole Growth more promiſing, robuſt, and hearty.

CHAP. III.

Of ſowing for double FLOWERS.

WE write for thoſe who dare attempt this Improvement upon rational Principles; and ſhall not ſuppoſe they will grudge the neceſſary Quantity of Ground.

As we have directed a large Parcel of Seed to be ſowed, we ſhall adviſe a much greater Extent of Bed to be prepared for it, then is uſually judged neceſſary; twice or three Times the uſual Allowance; for in the common Way, Plants, whoſe full Vigour is expected in their ſucceeding Growth, are ſtinted and ſtarved by crowding upon one another.

Let a Part of the Seminary be choſen that is open to the South-Eaſt, that has a gentle Aſcent, and through which the Air blows freely, though not from the cold Quarters. Let there be no Shade of Building, or Drip of Trees; no large Plants near, nor any thing to take the Nouriſhment from the Seedlings.

Let ſuch a Piece of Ground be marked out as we have mentioned, and the Mould dug away half a Spade Depth.

Bring in Soil from ſome Heap of Compoſt ſuited to the Nature of the Plant. Let it be ſuch as has lain eight or ten Months, and has had nothing growing upon it.

Let as much of this be brought into the Place as will raiſe a Bed a full Spade Depth or ſomething more; and let this be carefully laid in a ſloping Form; the Back or higheſt Part of the Bed being to the North-Weſt, and the Slope to the Expoſure. One Inch in ſeven Foot is about the proper Meaſure; ſo that in a Bed of twenty-one Foot, which is a convenient Length, there will be a Deſcent of three Inches.

The whole Piece being thus made into one broad Bed, is to be divided into ſeveral by Alleys running up the Length of it. Theſe ſhould be opened at five Foot Diſtance, and be juſt ſo broad as to give Room for walking up and down; to obſerve the Condition of the Plants, and perform the neceſſary Operations.

Upon theſe Beds, thus divided and laid, let the Seeds be ſown very thinly, and let a little Mould be ſifted over them: a Straw's Breadth is in moſt Caſes ſufficient: but this muſt be according to the Nature of the Plants, which we have ſeverally delivered already.

When the Seeds are covered, let a ſecond Parcel be ſcattered upon the Surface, and left uncovered: this ſhould be a ſmaller Quantity than the firſt; and both together ſhould not be ſo much by half as what is commonly uſed for an equal Space of Ground. The Gardener will remember, that all the Seed is choice, perfect, and like to grow; this makes the leſs needful; and there will not be that Abundance of bad Plants to be removed afterwards.

Three Days let the Seeds lie as they were put into the Ground; but on the fourth give the whole Beds a regular and gentle Watering; and let this be, from that Time forward, repeated every third Day, except when Showers prevent.

If violent Rains come in the mean Time, the Beds muſt be defended by a Mat hung over them at ſome Diſtance: this may be done by faſtening one End to a ſtrong Frame of conſiderable Height at the back of each Bed, and drawing the Mat to the Ground at the Foot: ſupporting it in the Mid-way in three or four Places by Stakes. Something of this Kind muſt always be in Readineſs for Uſe: 'tis never wanted except in Caſe of ſevere Showers, but if the Beds were left abſolutely expoſed to them, whether it were while the Seed was ſhooting, or when the young Plants were up, the Deſtruction would be very great, the Progreſs of the Growth would be interrupted in them all, and many would be waſhed out of the Ground.

With this Caution they will be eaſily ſecured from great Showers, and the more gentle will refreſh them, and be only beneficial.

When the Plants appear, let it be obſerved if they riſe any where ſo cloſe as to hurt one another. If that be the Caſe let them be thinned, and thoſe which are taken up be planted in another Bed, not among theſe.

Let no Weed riſe upon this Bed: let the Plants be conſtantly watered every Afternoon, and let this be done with a fine nos'd Pot, which has no Cracks or Flaws: the Water ſhould fall from it in the Manner of a very gentle Shower. Thus let the young Plants ſtand till they are in a Condition to be removed without Danger. They are to be tranſplanted only once; therefore let it be done with Care. And as they have been ſown thin, they may without Damage ſtand to take a due Growth firſt. The right Management of this Removal is of great Importance.

CHAP. IV.

Of tranſplanting the SEEDLINGS.

WHEN the young Plants in the Seed-bed have ſome Strength, let a new Set of Beds be prepared for them, of twice the Bigneſs of the firſt; and let great Care be taken of theſe, for it is there they are to flower.

Let the Ground be choſen in a like Part of the Seminary, but a little more open to the Eaſt, and let the Shape of the Seeds be marked by Lines, and the Ground dug away a full Spade Depth.

Let ſome Chipings of Stone be ſtrewed over the Bottom, and beat down flat, but lightly with the back of a Spade.

Let the Alleys remain unbroken, and the Space of the Bed be filled deep with another Parcel of Compoſt. This muſt not be from the ſame Heap with the firſt, but from one of the ſame general Nature, and more rich.

The Gardener, who has conſidered the preceding Part of this Work, will very well underſtand this Diſtinction: and if he have obſerved to prepare the ſeveral Compoſts, he will be very ready for the Practice. If the Plant he is raiſing be one of thoſe which require a light looſe Soil, there are ſeveral Compoſts of that Kind; and he ſhould chuſe for theſe Beds, or in Time make for them, one which is of the ſame general Nature with that firſt uſed, though of different Ingredients; and that with the ſame general Qualities is more fertile.

Let the Beds be made up with this a Spade and half deep; and let the whole, inſtead of a Slope, be of a rounded Form.

The true Method is to pare away the Sides when the Bottom is cleared, that the Head of the Work may be rounding like a Gravel Walk in a Garden; then the Clippings of Stone are to be ſcattered equally over that Surface, ſo that they will alſo be of a rounded Form of the general Bottom; and after this the Compoſt is to be ſpread regularly, and the whole Bed made a little rounded on the Top.

This done, let it be divided by Lines lengthway and acroſs, and theſe according to the Bigneſs of the Plants, farther aſunder, or nearer; but for no Kind they ſhould be left thirteen Inches diſtant; that there may be Room to clear between them.

In the Spots where the Lines croſs one another, open Holes, and chuſe a favourable Seaſon for the removing the Plants: let it be done in the Evening, and let the Weather be cloudy, and the Wind in the South, or nearly ſo. All cannot be done in one Evening; but this is the proper Weather, and if the Seaſon vary, the Work muſt be ſuſpended.

In taking up the Plants, let Care be uſed not to injure their Roots. Let the ſecond Beds be near the firſt, that the Fibres may not ſuffer by the Air in carrying from one to the other, and let no more of the old Mould be taken up with them, than hangs juſt about the Head of the Root.

Let the Extremities of the Fibres be trimmed off before the Plant is ſet in its new Place, and let it be fixed upright, and the Mould be carefully gathered round it.

When as many are planted as can be done conveniently in one Evening, let them have moderate Watering; and be open to the Night Air: but an Hour after Sun-riſe, draw a Mat or a Canvaſs at a Diſtance over them to ſhade them from the Sun; and let this remain over them till the Time of watering them again in the Evening. In this Manner let all the Plants be got into their new Bed.

CHAP. V.

Of the Management of the PLANTS.

AS we treat here in the general, and have only in View the doubling of Flowers, it is needful to obſerve, that according to the different Nature of the Plants, they will require more or fewer Repetitions of the ſame Management while in this ſecond Bed; but it

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depends upon the ſame Principle, the ſupplying them well with Nouriſhment, and the changing the Soil.

We will ſuppoſe the Plants be of thoſe Kinds which are ſown in Spring, take their Growth during the Summer, and flower the ſucceeding Seaſon. Theſe require three careful Dreſſings; as we ſhall now lay down the Rules: and all that is required farther, for thoſe which are longer before they come to flower, is, that they muſt have the ſame Care repeated ſo often each Year. For the Kinds we ſuppoſe, which are thoſe ſown in the Spring, in order to their flowering the following Summer, this is the Management.

As we let them grow larger in the Seed Bed than thoſe can who ſow them too thick, or than thoſe who intend to remove them ſeveral Times, a great deal of Care is to be taken of them in the planting out into their ſecond Bed. They muſt be ſhaded with the Mats till perfectly rooted, and after that they are to be left to take their remaining Summers Growth without any farther Aſſiſtance, than careful Weeding, breaking the Ground at Times between them, and watering according to the Weather.

In this Manner they are to ſtand the Summer; but in the mean time Preparation muſt be made for aſſiſting them at thoſe Periods when they are taking their laſt Growth, and ſetting for Flower.

Toward the latter End of *September* they muſt have one Refreſhment; and in the ſucceeding Spring and Summer two more. The Compoſts for theſe Services muſt be prepared now, and they muſt be all made to vary in ſome Degree from one another, though all muſt be of the ſame general Nature. The longer theſe Compoſts lie to mellow the better, therefore it will be right to prepare the three Heaps now, and it may be done in this Manner.

Let a Quantity of Compoſt be taken from ſome Heap of a proper Quality; though different in the Ingredients from that uſed for making the laſt Bed. Let this be divided into three Parcels; and let a Stick with a Figure be prepared to ſet upright in each, that the Gardener may know which is which.

With the firſt Parcel let him mix fine River Mud in the Proportion of one half: that is, let the Heap be compoſed of equal Parts of the Compoſt and of the Mud, and marked as we have directed, Number one.

With the ſecond Parcel let him mix Woodpile Earth in the Proportion of one third Part, and let this be mixed up well, and marked Number two.

With the third Parcel let him mix old Cow Dung in the Quantity of one fourth Part. Let theſe alſo be well worked together, and marked Number three.

This ſhould be done early in Summer; there is no Expence in it, and very little Trouble; and the Conſequence will be, that all lying in Readineſs the Work will be eaſy; and the Variety of the ſeveral Soils will give the Plants the full Advantage of frequent Removals without the Check. They are to be uſed in the following Manner.

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Toward the End of *September* let the Surface of the Beds be par'd away, or drawn off with a Hoe to the Depth of one Inch; obſerving to work tenderly juſt about the Stems of the Plants. In the Place of this let the Gardener bring in as much of the Heap numbered *one*, as will raiſe the Bed half an Inch higher than it was; and, after this, let him gather up a ſmall Quantity round the Stem of each particular Plant. The Quantity will be thus an Inch and half every where elſe; and two Inches or more about the Stems of the Plants.

This is to remain all Winter. It will by the additional Thickneſs defend the Roots againſt the Froſt, and it will ſerve in the Place of a Tranſplantation, by giving a new Soil about the upper Roots, while the Plants are kept from any Check by the lower, which continue unremoved.

In the Beginning of Spring, when the Plants are about to make their firſt Effort, toward the Shoot for flowering, take off an Inch Depth or ſomewhat more of the whole Surface of the Bed; and in the ſame careful Manner avoid injuring the Roots.

This will take off all the Compoſt laſt laid on, for it will by this Time be ſhrunk within that Compaſs. In the Place of this ſpread on as much from the Heap Number *two*, as will raiſe the Bed half an Inch above the former Level; and from Time to Time, as the Spring advances, water the Ground.

Laſtly, when the Buds for flowering are ſeen upon the Plants, take off the Surface once again, and fill up the Place of it from the Heap Number *three*. This compleats the Dreſſings.

After this the Surface muſt be broke lightly with a Hoe once in a Week, and every Day the Plants muſt be very thoroughly watered in the Morning; for that is the Time when they draw Nouriſhment moſt briſkly: and again toward Evening. But in all this Watering, Regard muſt be had to the Temper of the Ground. It muſt not be wetted like Pap; but as much Water muſt be given as it will receive, retaining the proper Condition for the Paſſage and Subſiſtence of the Roots.

In this Manner they will be brought to flower under all thoſe Advantages Nature takes in the enlarging and doubling of Flowers. There will be ſome ſingle; and, in Spite of all this Care, ſome bad amongſt them.

Theſe muſt be taken up; and the ſame Encouragement given to the others for the following Year.

The firſt muſt be marked then for Seed; and this entire Method followed in raiſing the Plants. The ſecond Offspring will ſhew the full Succeſs of the Practice; and the Gardener will know there is ſuch an Art as that of raiſing double Flowers with Certainty.

E D E N:

A
Compleat Body of Gardening.

NUMBER LVII.
For the middle of *OCTOBER*.

SECTION I.
FLORA, *or the* Pleasure-Garden.

CHAP. I.
Flowers and Curious Plants now in their Perfection.

1. ALLOBROGIAN HEMEROCELLES.

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Pl. 57. Fig. 1.

THE Term *Allobrogian* will acquaint the Gardener what Plant we lay before him in this Place, although under another generical Name.

It is indeed as ſingular as beautiful; the old Writers have all refer'd it to wrong Genera; and it has perplexed even thoſe of the beſt Judgment, who have ſince removed it into others. There is in its Aſpect an Alliance and Affinity with ſeveral Plants to whoſe Genus it can by no means be referred; and there are great Differences in its Nature from the other Species of that to which it is now reduced: but the eſſential Characters, on which Science now founds thoſe Diſtinctions, connect it regularly with them.

Such is the State of Botany: our Methods ſhew themſelves in theſe Inſtances to be purely artificial, but the Difficulty is almoſt inſurmountable which lies in the Way to a natural Syſtem.

All who have written, whether of Plants, or Flowers only, of late Time, have named this Ornament of our Gardens. They have in general referred it to the *Phalangiums*, and have diſtinguiſhed it by various Additions. C. Bauhine calls it *Phalangium magno flore*; and J. Bauhine, *Phalangium flore Lillii*: the great-flower'd and Lilly-flower'd Philangium; the Generality of the reſt have named it, from its moſt frequent Place of Growth, the *Allobrogian* Mountains in *Savoy*, the *Allobrogian Phalangium*. Daleschamp calls it ſimply, *Phalangium*, as conſidering it as the true and original Plant of that Name; and from him others have named it, *Phalangium antiquorum*: Phalangium of the Antients.

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Linnæus, who found the generical Characters far different from the *Phalangium* Kind, removed it to the *Hemerocallis*, with the Marks of which its Parts perfectly correſponds; and he adds as the ſpecifick Diſtinction, *Scapo ſimplici, corollis Hexapetalis, campanulatis*: ſimple-ſtalk'd Hemerocallis, with companulated Flowers of ſix Petals. This perfectly diſtinguiſhes it from the common *Hemerocallis*, as indeed does its whole Figure at firſt Sight.

The Root is compoſed of numerous, long, thick, and white Strings; hung with ſmall Fibres.

The Leaves are ſix or thereabouts, long, narrow, hollowed, riſing upright, and of a firm Structure; their Colour is a freſh green, they are ſharp-pointed; and at the Baſe, where they are naturally white, though ſometimes tinged rediſh, they embrace the Rudiment of the Stalk, and one another.

The Stalk is round, thick, juicy, upright, and fifteen Inches high; of a pale green, and ſet with a few ſlight Films, whoſe proper Office is to ſupport and defend the Footſtalks of the

Flowers, but the loweſt of them in ſome Degree reſemble little Leaves.

The Flowers crown the Top of the Stalk in a Kind of elegant, ſhort, but thick Spike. They are very large, and of the Lilly Form, and Snow-white Colour; only that three of the Petals are tipped with green: and they have a very delicate Fragrance. Ten or twelve of theſe Flowers appear frequently at once upon a Plant; and each has its ſeparate ſhort Footſtalk, and at the Baſe of that a Film. There is no Cup; the Body of the Flower is compoſed of ſix oblong Petals, which continue ſeparate to the Baſe, and they are ſmalleſt there, wider to the Mouth, where they are expanded; and the upper ones turn a little back at the Ends.

Within the Flower riſe ſix Filaments, long, tubulated, and crowned with golden Buttons: they are equal to the Body of the Flower in Length, they droop a little, and the upper ones are ſomewhat ſhorter than the under.

From the Rudiment of the Seed-veſſel, which is roundiſh and furrowed, riſes a ſingle Style of the Length and Figure of the Filaments, and crowned with a three-corner'd Head, which turns up a little. When the Seed-veſſel ripens it becomes more of the oval Form, and has three Ridges: it is divided within into three Cells, and in each contains numerous rounded Seeds.

The Claſs of the Plant is ſeen obviouſly in the ſix Filaments; and its Place in that Claſs by the ſingle Style. It is one of the *Hexandria Monogynia.*

Culture of this HEMEROCALLIS.

We have obſerved the Plant is Native of the *Northern* Parts of *Europe*, but it is not confined to thoſe; for it flowers alſo in great Elegance wild in *Italy*. The Situation which moſt favours it, is the Side of a Hill where there is Water near, where the Mould is light and deep, and there is ſome Shade. All theſe Advantages, when the *Engliſh* Gardener knows they are required, he can give without much Trouble to a Plant which endures freely the open Air in our Climate.

The great Diſadvantage attending Gardening is, that it is practiſed by thoſe, who not knowing the Hiſtory or Nature of the Plants, cannot give thoſe Aſſiſtances to their Growth ſo eaſily in the Power of ſuch as are conſcious they are required.

On this Principle let the preſent Plant be cultivated. Let a ſmall Bed be allowed for it in the Flower Garden; and let this be in a Spot that has natural Moiſture, a little Shade, and ſome Declivity; into this Place let there be dug as much River Mud and Meadow Earth as there is of the Garden Soil; and with theſe a little rotted Cow Dung: thus the Soil will be enriched without Heat, and the Place correſponding with it in ſuiting the Nature of the Plant, there will be all poſſible Advantage.

The Plant may be either encreaſed by parting the Root, or raiſed from Seed. If the Method by parting the Roots be choſen, the Seaſon for it is toward the End of *September*; and no more Trouble is required than to take them off from the old Root with a good Head; and, levelling the Bed made for them, to plant them at a Foot and a half Diſtance with the Head upright, and cover them two Inches with the Mould. They will in this Manner flower the ſucceeding Summer.

The Method by Seeds is ſlow, and there is no Expectation of Variety in the Flowers: it is ſcarce worth while to be at the Trouble; but thoſe who chuſe it will have numerous and elegant Plants.

The Time of ſowing is the End of Autumn, and the Seedlings are to be treated with great Care, removing them when the Leaves fade, the firſt Seaſon, out of the Seed-bed, and planting them at a Foot Diſtance; and then preſerving them by ſifting on a ſlight Covering of Mould, Spring and Autumn; and keeping the Bed carefully weeded.

Whichever Way the Plants are raiſed, they muſt be kept in Perfection by changing the Mould of their Bed every Year. The Time of doing this is at Autumn, when the Stalks and Leaves are perfectly decayed. The Roots muſt at this Seaſon be taken up and reduced to a due Size; and planted again immediately in the freſh Mould, covering them at leaſt as deep as at the firſt planting.

2. DOUBLE RED CAMPION.

Pl. 57. Fig. 2. This Garden Flower we raiſe from a common Weed: for in the ſingle State, the red *Campion* paints our Hedges in the early Part of Summer almoſt univerſally. Nature firſt gave the Hint for ennobling the Flower, but Art only can raiſe it to the full Bigneſs wherein we repreſent it in the annex'd Plate. Where the Ditch Side on which it grows is rich and well watered, we ſee the Flower not unfrequently double; but always ſmall. The full Richneſs of made Ground and the repeated Labours of the Gardener are required to bring it to this roſy Fullneſs.

In the double State the old Authors call it, *Lychnis multiplex*; and *Lychnis Flore pleno*; in the more uſual State, with ſingle Flowers, they have all deſcribed it: they call it *Lychnis ſylveſtris flore rubro*, and *Flore rubello*, and *Ocymoides purpureum.* C. BAUHINE calls it, *Lychnis ſylveſtris ſive aquatica purpurea ſimplex:* the ſimple flower'd red, wild or Water Lychnis: nor is the Name Water, given it by this Author, amiſs, for its natural Place of Growth is under Hedges, upon the Banks of thoſe ſmall

Ditches which are cut as a Part of the Fence: and it never thrives ſo well as when there is Water in them. CLUSIUS ſuppoſes it the *Melandrium* of *Pliny*, and not without Foundation.

LINNÆUS, who has ſeparated under ſeveral different generical Names the Plants called by others *Lychnis*, retains that Name for a certain Number of them; and this is one: he adds as the Diſtinction of the Species, a very ſingular Character, *Floribus dioicis:* Lychnis with male and female Flowers on ſeparate Plants. This is indeed a claſſical rather than ſpecifick Character; and ſhould, in the Strictneſs of Method, remove the Plant far from all the others of its Kindred: but LINNÆUS on theſe Occaſions, makes his Syſtem ſubſervient to Nature; and has kept them together according to her Laws, though in Contradiction to his own.

The Root is long, thick, white, and hung with many Fibres.

The Leaves riſe in vaſt Tufts, and are oblong and of a pale green, broad, ſoft to the Touch, and variouſly diſpoſed.

The Stalks are irregularly upright, branched, weak, and two Foot high. Their Colour is a pale green, and they are covered with a light greyiſh Hairyneſs. The Joints ſwell a little, and are often ſtained with purple.

The Leaves ſtand in Pairs; they are large, broad, oblong, ſoft to the Touch, and of the ſame pale green with the Stalk.

The Flowers ate very large and ſpecious: they are compoſed of a Multitude of oblong Petals irregularly jagged at the Edges, and their Colour is a ſtrong and fine Crimſon.

The Student knows we are to refer him for the Characters of the Plant to the ſingle State of the Flower; in this he will find it compoſed of five Petals, and placed in an inflated Cup.

This Cup is formed of one Piece, rounded, cut into five Parts at the End, and permanent.

The Petals of the Flower have narrow Baſes, of the Length of the Cup, which are edged by Membranes. The Filaments are ten, five are ſomewhat ſhorter than the others; and they have incumbent Buttons.

The Rudiment of the Seed-veſſel is oval, and there riſe from it five long Styles crowned with ſimple Heads.

The Seed-veſſel is oblong, and remains defended by the Cup; it is compoſed of five Valves, but has only a ſingle Cell, and is full of roundiſh Seeds.

Culture of this CAMPION.

The Gardener needs not be told, that little of his Care is needed to preſerve in the Borders a Plant which takes its Chance among Hedge Weeds, and flowers there in great Perfection: but even in this plain Inſtance the Guidance of Nature is neglected, and 'tis therefore we ſee it poor and imperfect.

We have lamented that thoſe concerned in the practical Part of Gardening, generally want Opportunities of knowing the Hiſtory and natural Growth of thoſe Plants they are to cultivate, becauſe the Books which ſhould convey that Knowledge, are in Languages unknown to them: but here 'tis Want of Obſervation only, for the Plant is before them.

One wonders to ſee Men take a Plant from a damp ſhady Place, and ſet it in a dry and open Border; but as often as the Occaſion returns, we have the Cauſe to wonder.

Let the Gardener remedy it in this familiar Inſtance. He is ſurpriſed at the Bigneſs in which we repreſent the Flowers in this Figure, and becauſe he has only ſeen the Plant in ill-choſen Situations, where they reach but half their natural Size, and very little of their proper Luſtre; he ſuppoſes their true Form exaggerated. Let him give the Plant proper Advantage, and he will find it all in Nature; if he propagate it by parting the Root, let him in Autumn chooſe the damp Side of a Clump of flowering Shrubs; and with no more Care he ſhall ſee the Flowers next Summer vaſtly improved in Bigneſs and in Colour; and ſuch Soils and ſuch Situation let him for the future give to this and to all other Plants of the ſame Origin.

This Method of parting the Roots is the common and familiar Way of propagating the Plant, they encreaſe abundantly; and they ſhould be parted in Autumn, but not too ſmall. After this they ſhould every Autumn be taken out of the Ground, clean'd, and reduced to a due Size; and planted again immediately either in another Place with the ſame Advantages as the firſt, or in the ſame Spot with new Mould.

Thus they will flower in Perfection: but the Gardener knows more is to be expected if he will be at the Pains to raiſe them from the Seed. The Method of doing this we need not here lay down at large; having given it ſo fully already. He muſt obſerve that no Seed is to be expected from theſe double Flowers: it muſt be collected from the ſingle Kind wild in the Hedges.

This muſt be ſown in Autumn under the Advantages we have directed for other Seeds intended for raiſing double Flowers; and the Reſult will be, that the Gardener will find, among many of an inferior Order, ſeveral double and large ones; crimſon, pale red, white, and variegated. The Plant in this View is very well worth Culture, and is capable of great Improvement.

3. ARABIAN ORNITHOGALIUM.

Pl. 57. Fig. 3.

The *Ornithogaliums* of every Kind have been at all Times received and valued in our Gardens; but this moſt of all, and moſt worthily; there is a Dignity and Elegance about it which none of the others have, and indeed ſcarce any other Plant.

The Writers all have named it; and in general, under the ſame generical Term. CLUSIUS calls it *Ornithogalum Arabium*, and from him moſt others have taken it. Some call it, *Arabicum majus*, the greater Arabian Kind. C. BAUHINE *Ornithogalum umbellatum maximum:* the greateſt umbellated Ornithogalum; and J. BAUHINE, *Lilium Alexandricum, ſive Ornithogalum magnum Syriacum:* the Alexandrian Lilly or great Syrian Ornithogalum.

LINNÆUS, more correct than all, adds to the generical Term, which he preſerves unaltered, *Floribus corymboſis pedunculis ſcapo humilioribus, Filamentis emarginatis:* Corymboſe Ornithogalum, with the Side Footſtalks ſhorter than the Stalk, and with emarginated Filaments.

The Root is large and round, a regular Bulb compoſed of numerous Coats, broad at the Baſe, and there furniſhed with many Fibres. The Colour whitiſh, and the Juice thick. The Leaves are numerous, long, and ſlender; they are broadeſt at the Baſe, ſmaller to the Point, hollowed, and of freſh green; ten or more of theſe riſe together, and diſplay themſelves in various Directions.

The Stalk is round, upright, and fourteen Inches high, not very thick, of a freſh green Colour, and often whitiſh toward the Baſe.

The Flowers crown the Stalk in a great broad Head, and they are extremely elegant; they are large, and their Colour is a perfect white; and their Smell very ſingular: this is principally perceived in an Evening.

There are no Leaves upon the Stalk, but a few Fibres, which defend the Footſtalks of the Flowers when they firſt appear; and remain with them afterwards one to each.

The whole Head of Flowers is of a Form approaching to round; but the Flowers riſing from the Summit of the Stalk, though they have the ſhorteſt Footſtalks, are higheſt in the Cluſter: the Footſtalks of tho' others the longer, not exceeding them in Height.

The Student will find ſomething very ſingular in the internal Parts of this Flower; but the Claſs will be obvious at firſt Sight.

The Flowers riſe naked from the Summits of the Footſtalks, and each is compoſed of ſix broad Petals expanded, and ſpecious; in the Centre ſtand ſix Filaments, three of theſe are emarginated, the other three plain; and the Buttons large. The Rudiment of the Seed-veſſel is angulated, and from this riſes the Style, which is ſingle, ſmaller toward the Top, and permanent; crowned with an obtuſe Head. The Seed-veſſel, when ripe, has three Ridges, and is compoſed of three Valves, and divided within into three Cells, in each of which are numerous roundiſh Seeds with a columnar Receptacle.

The different Structure of the Filaments is a very ſingular Incident in this Plant; but their Number, which is ſix, refers it plainly to the *Hexandria*; and the ſingle Style to the *Monogynia*, the ſixth Claſs, and its firſt Section.

The Culture of this ORNITHOGALUM.

It is a Native of *Egypt*, and other Parts of the *Eaſt*; and flowers abundantly in the deep black Soils, about the Edges of Springs. With us the Root will live in the common Borders, and produces its Leaves, and multiply by Off-ſets; but very rarely flower. 'Tis not a Wonder that a Native of a Climate ſo different from, and ſo much warmer than our own, ſhould not readily flower with us in this rude Way of Culture; but there is ſo much Beauty in the Plant; that it ſhould be allowed all Advantages.

The Roots are brought over annually by the *Italians*, and they ſhould be treated as others from ſuch Climates: when they are receiv'd, they ſhould be cleaned; the dead Skins peeled off, the decayed Parts cleared away, and the Roots wiped ſoftly with a Cloth. After this let them be laid in a cool Place in the open Air three Days, and then planted in the following Manner. Let ſome freſh black Mould, from under the Turf in a Meadow, be mixed with equal Parts of rotted Cow Dung and Pond Mud; let ſome looſe Pieces of Gravel be laid in the Bottom of a Pot, and this Compoſt poured in to fill it half up. Let the Root be ſet upright upon this, and more of the Mould pour'd in till it is covered half an Inch. Refreſh and ſettle the Mould by a very gentle Watering; and then ſet the Pot in a warm and ſhaded Place.

Once in four Days give a very little Water. It is neceſſary to do this, but nothing requires ſo much Caution: if the Mould be ſuffered to become too dry, the Root will not ſhoot its Fibres; if it be made too wet it will rot. The Caution of the Gravel at the Bottom of the Pot was directed to preſerve the free Paſſage of the Water; and the Way to know whether the Temper of the Mould be right, is to open it a little Way at the Edge of the Pot to examine.

If this Practice be followed during the Beginning of Summer, there will be a Shoot ſeen toward the middle of *July*. This muſt be encouraged by more Watering, and when the Evenings begin to be cool, the Plant muſt be removed into a warmer and opener Place; but ſtill ſheltered from cold Winds. It will be beſt to ſet it among the Greenhouſe Kinds.

Toward the End of *September* let it be removed into the Stove, and ſet in the Bark Bed; it muſt be watered at Times and treated as the reſt; and it will flower in its full Beauty.

After this, every Spring and Autumn the Mould muſt be taken off from the Surface, and freſh put in the Places; and once in two Years the Root muſt be taken up, the Off-ſets cleared away, and planted in ſeparate Pots; and the old Roots in freſh Quantities of the ſame Mould as at firſt. Thus the Plant will flower in all its Perfection; and this is its rational Treatment.

4. ILLYRIAN PANCRATIUM.

Pl. 57. Fig. 4. The Senſe of Mankind of this Plant's Elegance has given it a long Time a Place in Gardens, where its delicate Fragrance, Singularity, Beauty, and eaſy Culture, will join to preſerve it in Reputation. A Flower, ſo long and ſo well known to the Gardener, could not eſcape the Attention of botanical Writers: they have all celebrated it, but under various Names. C. BAUHINE calls it *Narciſſus Illyricus Liliaceus:* the liliaceous Daffodill of Sclavonia. The more common Writers, *Narciſſus tertius Mathioli:* the third Sea Narciſſus of Mathiolus. BESLER calls it, *Lilio Narciſſus Hemerocallidis facie:* Lilionarciſſus with the Aſpect of the Hemerocallis; and J. BAUHINE, by a long Name which very well ſhews his vague Notion of its Characters, *Pancratii Monſpeliani, vel Hemerocallidis valentinæ facie Lilionarciſſus, vel Narciſſus tertius Mathioli:* a Lilionarciſſus, with the Appearance of the Pancratium of Montpelier, the Hemerocallis of Valentia; or the third Daffodill of Mathiolus.

When ſuch Names were received, did not the Science want LINNÆUS? that Author, having diſtinguiſhed the bulbous Plants by Characters which obviated all this Confuſion of naming them from their Likeneſs to one another, refers this to the *Pancratiums*, ſeveral Species of which we have had Occaſion to deſcribe before; and he diſtinguiſhes this particular Plant by the Addition, *Spatha multiflora, foliis enſiformibus, Staminibus nectario longioribus:* Sword-leaved Pancratium with cluſter'd Flowers and Filaments longer than the Nectarium.

The Root is bulbous, vety large, of an oval Form, and hung from the Baſe, with many long, large, and durable Fibres. The outer Coats are blackiſh, but it is white, and full of Juice within.

The Leaves are ſix or eight in Number, broad, plain, and edged, not very long; of a firm Subſtance, and of a grey-green Colour.

The Stalk is round, thick, and juicy, naked, a Foot high, and of a pale green; whitiſh toward the Ground.

On its Top ſtand the Flowers, all riſing from one common Point, and at the firſt ſurrounded or encloſed with a common Scabbard. They are from ſix to ten or twelve in Number, or with very good Culture more: they are large, white, wide expanded, and extreamly fragrant: the Scent is in the higheſt Degree pleaſant, but not heavy or overpowering.

The Scabbard from which they burſt, is oblong, obtuſe, flatted, and large; it burſts on the plain Side, and ſoon after fades.

The Flower conſiſts of ſix Petals, and a conſpicuous Nectarium. This is formed of one Leaf, white as the reſt of the Flower, and cut at the Rim into twelve expanded Segments; ſmaller and hollow toward the Baſe. The ſix Petals are fixed to the Outſide of this tubular Part near the Baſe: they are oblong, and broadeſt toward the middle.

The Filaments are ſix; they riſe from the Nectarium; they exceed it in Length, and they have oblong incumbent Buttons.

The Style is ſingle, and crowned with an obtuſe Head. It riſes from a rounded Rudiment placed under the Receptacle of the Flower, and marked with three obtuſe Ridges; this afterwards ripens into a three corner'd Seed-veſſel form'd of three Valves, divided within into three Cells, and containing in each many round Seeds, with a columnar Receptacle.

The ſix Filaments and ſingle Style ſhew the Plant one of the *Hexandria Monogynia*.

Culture of this PANCRATIUM.

It is a Native of the warmer Parts of *Europe*, and thrives beſt on the Sides of Hills that lie near the Sea.

The Influence of the Sea Water reaches farther than any but thoſe who ſtudy Botany, are aware.

We find in *England* a Number of Plants, beſide thoſe which never live any where but upon the Shores, which very well deſerve to be called maritime, for they flouriſh five or ſix Miles from the Sea, but are not found in the midland Places. Therefore this bulbous Flower, though found on the Mountains of *Sardinia*, as RAY tells us, is always to be underſtood by the Gardener as a Maritime Plant, and treated accordingly. We have had Occaſion in former Inſtances to mention the Particularity that is to be obſerved in the Treatment of thoſe Plants which Nature has raiſed near the Sea; it is a Thing quite overlooked in the Practice of Gardening; and the Conſequence is, that few of thoſe Plants, ſome of which are the fineſt we know, flower in their full Beauty.

As this is a Native of *Europe*, it will very well bear the Seaſons with us in open Ground, only it ſhould have a good Spot choſen; and a Soil appropriated to its Nature. In this the Gardener may very happily propagate it by Off-ſets; for we could, with an ill Grace, adviſe him to the Method by Seeds, if every Attempt in that Way were to be as tedious as our faithful PARKINSON's; who was fourteen Years in bringing a Seedling Plant of it to flower. This Method however, tho' we name the Diſcouragement, we do not mean to diſcommend; the Art of Gardening is better known than in his Time, and with the Circumſtance of a well ſuited Soil, the Labour may reap its Reward ſooner. It will be a Service to the Cauſe, if ſome, who raiſe many of the bulbous Kinds from Seed, will give this a Trial among them.

The Compoſt ſhould be prepared thus: mix a Barrow of dry and not over rich Paſture Mould, with a Buſhel of old Cow Dung, three Pecks of Woodpile Earth, and two of Sea Sand wet with the natural Water; or, if the Sea be not near, uſe in the Place of this the ſame Quantity of River Sand, or of coarſe Pit Sand waſhed clean, Octob. and three Quarts of Brine; let this be thrown in a Heap in *October*, and lie till the ſucceeding Year, often turning it, and ſuffering no Weed to exhauſt it.

When the flowering Time of this Plant is over, and the Leaves are decayed, make up a Bed in a choſen Part of the Garden for planting the Off-ſets, to be ſeparated from the Roots. Let the Place be open to the Morning Sun, and ſheltered from cold Winds: let the Mould be dug out a Spade's Depth, and dug up well for a full Spade underneath, throw in the Compoſt to raiſe the Bed three Inches above the former Level; and dividing the Surface by Lines drawn both Ways into Squares eighteen Inches in Diameter, open a Hole in every one for one Off-ſet. Let the Opening be large, three Inches deep, and the Bottom levelled.

Take up the old Roots in a moiſt Evening, and ſeparate the Off-ſets. Trim the Ends of their Fibres, and plant one upright in each Hole; draw the Mould about them, and let them be covered an Inch deep.

There will require no more Care beſides weeding and watering till they flower.

After this let the Surface of Mould be every Octob. Seaſon drawn off for two Inches Depth between the Plants, and a freſh Parcel from another Heap of the ſame Compoſt prepared for that Purpoſe be ſpread in its Place, but never let them be taken up. We have obſerved their Fibres are durable, not temporary as in the common Bulbs; and nothing but this Care of leaving the Roots in the Bed can make them flower with due Strength.

The Seedlings, which we propoſe ſhould be raiſed in the mean Time, ſhould have the ſame Compoſt; and when they have one Year's Growth they muſt be planted in a ſeparate Bed at a Foot Diſtance never to be removed again: this Bed, being of the proper Compoſt, and expoſed to the Morning Sun, will nouriſh them well; and it will be ſeen whether they do not flower in better Time than the Account of PARKINSON would lead us to expect. The flowering of many Plants may be promoted by good, and delayed by erroneous Management. The tranſplanting of bulbous Seedlings is underſtood an Article of good Gardening, and this Plant was not at all Times a known Exception.

5. DARK FLOWERED WHITE HELLEBORE.

Pl. 57. Fig. 5. The ſtrong Ribs in the Leaf of this Plant recommends it to Notice when out of the flowering Seaſon; and at that more favourable Time the Number and Diſpoſition of the Flowers. It very well deſerves a Place in Gardens as an Object of ſingular Variety.

The old Writers knew it; and they have in general called it by the Name, white *Hellebore*, with an Addition from the Colour of the Flower. C. BAUHINE calls it *Helleborus albus flore atro rubente:* white Hellebore with a blackiſh red Flower. Others have added the Term *Præcox*, early, but this is uncertain; for the fine large flower'd Kind here repreſented, is later than the common.

LINNÆUS, diſcarding all compound generical Names, calls it *Veratrum*, and adds as the Diſtinction of the preſent Species, *Racemo compoſito corollis patentiſſimis:* Veratrum with patent Flowers in a compound Cluſter.

The Root is compoſed of numerous, thick, long Fibres, connected to a ſmall Head.

The Stalk is round, upright, firm, and near a Yard high; naturally of a pale green, but often ſtained with a deep Purple toward the Ground.

The Leaves are placed alternately, and they have no Footſtalks, but in ſome Meaſure ſurround the Stem at their Baſes. They are very large; long, of conſiderable Breadth, and marked with ſtrong and high Ribs, all running lengthways; the Surface of the Leaf is rendered very uneven by theſe, and the Aſpect is ſingular.

The Colour is of a pale green, often inclining toward yellowiſh; and the Subſtance firm and harſh.

The Flowers crown the Stalk in a vaſt Cluſter, reaching a third Part of its Length; they are ranged on long common Footſtalks with ſhort hairy ones for every Flower; and their Colour is an extreamly deep purple, tending to black. Singly they are not large, but the vaſt Number of them renders the Plant conſpicuous; many hundreds being often open at a Time.

Each Flower is compoſed of ſix Petals, and is placed naked upon the Footſtalk without a Cup. RAY conſidered theſe as Leaves of a Cup, not Petals of a Flower; and in the common white *Hellebore*, whoſe Flower is greeniſh, there is much of that Appearance. It was thence he claſſed the Plant among thoſe with imperfect Flowers. The Petals are oblong, lanceolate, and permanent.

In the Centre ſtand ſix Filaments; they are ſhort, and are crowned with ſquare Buttons. Thus far they are all alike; but upon more Examination, there will be found in ſome, beſide theſe Filaments, three oblong Rudiments of Fruit, crowned with very ſhort Styles, with open Heads; in others only a faint Repreſentation of a Rudiment without Styles or Heads. In the firſt Kind the three Rudiments ripen into three Capſules of an oblong compreſſed Form, each containing ſeveral flatted membraneous Seeds; in the others the Rudiment fades and comes to nothing.

From this Diſtinction of the Flowers the Claſs of the Plant is known, thoſe with compleat Rudiments, ſucceeded by Seed-veſſels, are hermaphrodite Flowers; the others, with the ſlight and inconſiderable Appearances which fade without Fruit, are male Flowers; and as theſe two Kinds grow on the ſame Plant, the Claſs is that of the *Polygamia Monogynia.*

Culture of this HELLEBORE.

It is a Native of *Hungary*, and many other of the Northern Parts of *Europe*, where it ſucceeds beſt in a looſe Soil, and open Situation; on the Sides of Hills, and Borders of Fields. There can be no Difficulty in propagating ſuch a Plant in Gardens here: it lives in the common Borders, in any Situation; and flowers with tolerable Care more beautifully than in its native Country.

The Gardener has his Choice, to propagate it by Seeds, or by parting the Roots: the latter is the ready Way, and ſucceeds very well; but the other is the Method for thoſe who value themſelves upon having fine Plants: we adviſe the Gardener to uſe both. For the preſent Stock let him obtain ſome parted Roots, but for a Succeſſion of fine growing Plants, let him have the neceſſary Patience for the Growth from Seed.

The Seaſon for parting the Roots is not Autumn, as for the Generality of the fibrous Kinds, but Spring. The Beginning of *March* is the moſt ſucceſsful Time: and they will require to be divided once in three Years.

The Soil ſhould be a Mixture of freſh Paſture Earth and rich Garden Mould in equal Quantities; a Bed ſhould be made of this, and dug two Spades deep, and perfectly levelled. It ſhould be in a Part of the Garden open to the Morning Sun, and not ſhaded by Trees: the parted Roots muſt be planted at eighteen Inches Diſtance; and watered and weeded in the common Way. Every Autumn and Spring the Surface of the Mould muſt be well broke between the Plants; and every third Year, when they are taken up for parting, the whole Soil muſt be dug out, and freſh put in its Place; or the Plants muſt be put in another Border.

The Seeds muſt be ſaved from the ſtouteſt and moſt flouriſhing Plants; and ſown in Autumn. The following Spring they muſt be often watered, and the Bed kept clear from Weeds; and where they have riſen too cloſe, they muſt be thinned. The ſucceeding Spring they muſt be planted out at ſix Inches Diſtance in another Bed; and the Spring ſucceeding that into the Garden, where they will flower according to the various Accidents of their Growth that or the ſucceeding Summer. Theſe will be the fineſt Plants, and though Time is required, the Trouble of raiſing them is trifling.

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6. GREEN BACK'D ORNITHOGALUM.

Pl. 57. Fig. 6.

It muſt be indeed an elegant Plant of the *Ornithogalum* Kind, that could appear with Advantage after the *Arabian* we have juſt named: this cannot be ſaid to diſpute the Preeminence with that; but 'tis notwithſtanding a very elegant Plant: and, as it is alſo of eaſy Culture, it ſhould be admitted into all Gardens where Variety is ſtudied.

The old Writers were acquainted with it, and they have univerſally called it *Ornithogalum*. They have added their Senſe of its Diſtinction from the other Kinds, though in Terms which confeſſed they ſcarce knew what the Difference was.

It is indeed a Variety of the common Kind; riſing from its Seed under the various Accidents of Growth, not an abſolutely diſtinct Species. CLUSIUS calls it *Ornithogalum vulgare aliud:* another Kind of common Ornithogalum. C. BAUHINE diſtinguiſhes it by the Term *Latifolium*, broad leav'd; but this is vague and uncertain. The Leaves, though commonly broader than thoſe of the common *Ornithogalum*, from which he means to diſtinguiſh it by that Epithet; yet being too uncertain in that Particular for the founding a proper Character, the entire green of the back of the Flower is the obvious Diſtinction: by this the Gardener will always know it; this is its principal Recommendation to his Notice; and he is to be informed that LINNÆUS, who has carefully diſtinguiſhed Varieties from Species, does not allow this of the latter Kind: he is to refer it therefore to the common *Ornithogalum*, which that Author diſtinguiſhes by the Addition, *Floribus corymboſis, pedunculis ſcapo altioribus, filamentis emarginatis:* Corymboſe flower'd Ornithogalum, with the Footſtalks taller than the main Stem, and with emarginated Filaments.

The Root is a large Bulb, white, crowded with Off-ſets, and hung with many Fibres.

The Leaves are numerous, very long, moderately broad, and of a fine ſtrong green: they riſe conſiderably above the Top of the Stalk; and they have not that white Rib in the middle which diſtinguiſhes the Leaves of the common Kind.

The Stalk is green, round, naked, and eight Inches high; white toward the Ground, and elſewhere of a pale green.

At its Top ſtands an elegant Cluſter or round Head of Flowers: they all riſe from one Point, and ſpread themſelves into a Kind of Umbell. Each has its ſeparate long Footſtalk; and when the full Number is blown, the Tuft is very elegant.

The Flowers are large, and on the inſide of a ſnowy white; the whole Back is green; and as the Footſtalks move with the Wind, this green Part is often turned up to the Sight, and adds to the general Beauty.

The Gardener recollects thoſe in the Flower of the common *Ornithogalum:* there runs all along the back of each Petal, in the middle, a green Streak; this, in the preſent Flower, does not keep within thoſe natural Limits, but ſpreads itſelf over the whole Petal.

The Flower has no Cup; it is compoſed of ſix oblong, moderately broad Petals, and has in the Centre ſix Filaments, three of which are nip'd, the other plain, all broad at the Baſe; and crowned with roundiſh Buttons.

The Style is ſingle, it riſes from an angulated Rudiment, and is terminated by an obtuſe Head.

The Seed-veſſel is roundiſh, angulated, and formed of three Valves; it contains three Cells, and in each of theſe are numerous rounded Seeds with a columnar Receptacle.

The ſix Filaments and ſingle Style ſhew very plainly the Claſs and Place of the Plant; they declare it one of the *Hexandria Monogynia*.

Culture of this ORNITHOGALUM.

We have obſerved that this elegant Plant is only a Variety of the common Kind; the Gardener therefore is to raiſe it by large ſowings of the Seed of that Plant, or to propagate and encreaſe it by Off-ſets, which it produces in Abundance: the Method by Seed is very precarious, for out of a thouſand Plants there ſometimes will not perhaps be one of the true Kind: the Method to attempt it with moſt Proſpect of Succeſs is, to ſow the Seed from ſome Plant, which has the green Rib at the back of the Petals broader than uſual; and the Leaves with the fainteſt Stripe of white From the firſt ſowing of the Seeds of the common Kind there will be ſuch Plants, and the regular Expectation is, that this will be obtained from the Seeds of ſuch Plants in a ſecond Succeſſion.

There is no particular Care required for ſowing the Seeds. A Spot in the Seminary, open to the South Eaſt, will raiſe them in the open Ground, and they muſt be removed the ſecond Year into a Bed at five Inches Diſtance.

The ſecond Sowing muſt be treated as the firſt; and if no Plants of the true Kind appear from this, the Seed of thoſe which come neareſt to it are to be ſown again.

When the true Plant is once obtained, the Method of propagating it by Off-ſets is very familiar: it lives freely in the common Borders; and once in two Years the Roots may be taken up to remove the Off-ſets. The Seaſon for this is immediately upon the Decay of the Leaves after flowering; and both the old Roots and the Off-ſets muſt then be allowed a freſh Soil.

The Off-ſets will flower the ſucceeding Seaſon; and after this are to be treated as the old Roots, taking them up every other Year to remove their Off-ſets; and in thoſe Years wherein they are not taken up, the Surface of the Bed ſhould be pared off at the ſame Seaſon, and ſupplied with freſh Mould.

SECTION II.

Of the Propagation of Trees and Plants from all their PARTS.

THE Spirit of Curioſity is ſo far raiſed in many who have not Opportunities or Attention for the making themſelves Maſters of the Science of Botany, that the raiſing exotick Plants and Trees is become a very profitable Employment.

The Purchaſers for the more rare Kinds are more than can be ſupply'd; and the Nurſeryman wiſhes nothing ſo much as the Secret of a larger Multiplication.

The Method by Seed is ſlow, that by Layers is limited in Point of Number; it alſo requires much Time: the Method by Cuttings is the moſt ready, but that does not well ſucceed in all the Kinds: there is alſo the farther Diſadvantage in the Way of raiſing from Seed, that it ripens imperfectly in many Kinds with us; and often what we obtain with much Difficulty from abroad, is either gathered unripe, or injured in the bringing over.

Theſe Conſiderations join, to ſhew that a more univerſal Manner of propagating them would be of great Advantage to the Dealer, as well as Satisfaction to the private Gentleman: and this is what we propoſe to treat of in the preſent Section.

The Honour of the Diſcovery, if the Succeſs ſhall ſhew it merits any, will be due to a wild and fantaſtick Writer, *Agricola* of *Ratiſbon*, from whoſe irregular and ſtrange Work upon this Subject, we have here thrown together for the Uſe of the *Engliſh* Gardener, what ſolid Knowledge it contains, and what is ſupported by Experience. The Practice is too new in *England* for accumulated Illuſtration; but what we have now under Trial with a Proſpect of Succeſs, we lay down to the candid Examination of the Publick, and deſire thoſe who have Opportunities to make the ſame fair Experiments.

The Principle on which this Author proceeds is, that in general every Part of a Plant contains the Rudiments of an entire Plant of the ſame Kind. What LINNÆUS has ſince ſaid, that the Trunk and Root differ little, otherwiſe than as one is above and the other under the Ground, this Author had long before aſſerted; and he alledges that every Part of a Plant or Tree has the ſame Analogy with the reſt: conſequently, that as there are in every Part, the Rudiments of all the reſt; and a proper Management only is required to bring them forth; that every Part may equally be the Source of a compleat Plant. That the Branches will form Trees becauſe they want only Roots whoſe Rudiments are contained in them; that Parts of the Roots will as eaſily be raiſed to perfect Trees, becauſe the Rudiments of Trunks, Branches, Leaves, and all the reſt are in them; and in the ſame Manner, that every Leaf of a Tree may be made to grow up into a perfect Tree. Upon the ſame Principle he aſſerts, that in the Fibres of the Leaves, as well as in the Branches and their Shoots, there are theſe Rudiments of all the

Pl. 57.

1
Allobrogian Hemerocallis
2
Double red Campion
3
Arabian Ornithogalum
4
Illyrian Pancratium
5
Dark flower'd White Hellebore
6
Green back'd Ornithogalum

Octob. the other Parts; and declares from his Experience on repeated Trials, that a Leaf, being properly planted, will ſtrike Roots from the Baſe; and that the filmy Parts decaying, the Ribs will remain as Branches, encreaſing in Length and Bigneſs, and produce every other Part.

The Reader will find we carefully diſtinguiſh between what is ſupported by his Aſſertion, and what we have confirmed by Trials: there is great Appearance that ſome Things not true, are affirmed by him among others of better Credit; but the Proceſs is rational, and the Experiments are eaſy. The Advantage is very great if it ſucceeds, for though Seeds are precarious, Layers neceſſarily but few, and even Cuttings come under a limited Number; if ſmall Pieces of the Roots and Branches can be made in a moderate Time to riſe into good Plants; there is no Tree that may not be multiplied in any Degree the Poſſeſſor chuſes. Octob.

That more may be done in this Way than thoſe unacquainted with the Secrets of Vegetation could imagine, we are certain; tho' perhaps not all the Author propoſes: for he has written partly from Imagination, partly from Experience. Of this the practical Gardener, who has the Advantages of Bark Beds and a Stove, may be aſſured, that if in ſome Inſtances he cannot effect all that Author propoſed, he will in others be able to do more, becauſe he wanted thoſe great Articles, nor was the Art of Gardening ſo well known.

* * *

CHAP. I.

Of Multiplication of Trees by the ROOT.

UPON the Principle that the Root of a Tree contains in every Part the Rudiments of the whole, the Propagation and Encreaſe of the Tree is to be attempted by larger or ſmaller Pieces of it committed to the Ground. The Danger is, that the Root ſhould rot before the Principle of Vegetation acts: to prevent this the wounded Parts are to be covered with a Kind of Cement, that will adhere to them firmly in all Parts, and keep out Moiſture. Upon this Principle the Expectation of Succeſs is founded. The Moiſture of the Earth will cauſe thoſe Rudiments to ſhoot: the Damage the ſame Moiſture would cauſe by ſetling upon the wounded Parts, is taken off by the dreſſing with Cement; and whether larger or ſmaller Pieces of Roots be planted, they will thus be ſecured, and will furniſh one or more perfect Plants, according to their Bigneſs.

The Cement is thus prepared. Put into an earthen Pot four Pounds of black Pitch, one Pound of Turpentine, and two Ounces of powdered Aloes; ſet this over a ſmall Fire in the open Air, and when it has been ſome time melted, ſet it on Fire, it will flame up violently; but on covering the Pot cloſe, it will immediately go out. For this Purpoſe the earthen Pot ſhould be one of thoſe which has a Cover; and this Cover being put on, a coarſe Cloath ſhould be thrown over it to make it ſhut the cloſer.

When it is extinguiſhed, let it melt again gently ſome Minutes, then fire it again, and cover as before. Repeat this three Times, then put in a Quarter of a Pound of yellow Wax, and melt all over again: then ſet it by for Uſe.

This the Inventor calls Mummy; he gives Receipts for ſeveral Kinds fitted to various Purpoſes, but this will anſwer for them all. The Cement being ready, make the Experiment in the following Manner.

1. *Of propagating by large Parts of the* ROOT.

Open the Earth about the Stem of a flouriſhing Tree in the Beginning of *April*, and cut off one of the large horizontal Roots of an Inch and half or more in Diameter; follow its Courſe in the Ground, and open the Way with a Pick-Ax, that it may be taken up with as little Injury as poſſible. Cut off the Side Shoots, and make the wounded Part perfectly ſmooth: in the ſame Manner ſmooth the great End: then wipe the ſeveral Wounds very dry, one after another, and cover them well with the Cement. It muſt be melted ſo thin as to ſpread eaſily, but it muſt not be too hot.

When the Wounds are all ſecured, open a Trench in a Border of fine Mould, that will hold the Root laid along horizontally. Let the Trench be ſo deep as to contain the Root entire, and allow for covering it an Inch, without raiſing the Earth above the Level of the Bed.

Draw the Mould carefully about it, and cover it well: preſs down the Earth carefully and firmly, as it is drawn in, that the Root may be cloſe covered in every Part, for this will promote the ſhooting of the new Plants; and at the ſame Time prevent the Miſchiefs that might ariſe from too much Wet.

The Root will, after ſome Weeks, crack in the Rind in ſeveral Places, and there will appear from each a Shoot for a new Tree, and oppoſite to it, or near it, roots.

In ſix Weeks from the laying, the Plants will be a Foot above the Ground; and a Fortnight after this they may be ſeparated and removed. For this Purpoſe the Earth muſt be opened all along the Place where the Root lies, to lay bare the Surface; it muſt be ſawn through into as many Pieces as there are good Plants, the two Ends of each Piece muſt be ſmoothed and covered with the Cement, the Extremities of the Fibres or new Roots taken off with a Pair of Sciſſars, and the Plant ſet in good Mould. The whole Set may be thus removed into a Nurſery Bed, and treated in the ſame Manner as Cuttings when firſt removed; and they will ſoon grow up to fine Trees.

The Uſe of this Method is obvious. A Tree may ſpare a ſingle Branch of its Root without Damage; and there may be a Number of new ones produced from it; either inſtead of doing that by Layers or Cuttings, or for a greater Encreaſe at the ſame Time.

2. *Of Propagation by ſmall Pieees of the* ROOT.

Take off a ſmall horizontal Root of any Tree that is to be encreaſed; cut it into a Number of Pieces of three Inches Length each; ſmooth both Ends of theſe Pieces; and wiping them very dry, cover them with the Cement melted, juſt ſo much as to make it ſpread eaſily over the Surface.

Dig up a Piece of rich mellow Mould in a ſhady Situation, draw Lines upon it at five Inches Diſtance lengthway, and acroſs at ſix Inches Diſtance; and in the Centre of every Square open a ſmall Hole, plant a Piece of the Root in each Hole, preſs the Mould very cloſe about it; and thus ſet all the others.

They will each of them ſend out one or more Shoots, and ſeveral Roots: the beſt Shoots muſt be preſerved, the others taken off; and after about ſix Weeks Growth they muſt all be taken up, and planted in a Nurſery Bed in the ſame Manner as other young Trees, whether raiſed from Seed, from Cutings, Layers, or whatever Method.

This is another Method of eaſy and encreaſed Propagation; for a Tree of tolerable Strength will ſpare ſuch a Root without Damage.

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CHAP. II.

Of raiſing a Tree from a LEAF.

THE Hypotheſis of this Author, that every Part of a Tree contains the whole in its Rudiments, naturally extends the Subject of Propagation to all the Parts. The Method by Cuttings appeared ſtrange when LAUREMBERG propoſed it; but Experience has ſhewn how perfectly he was in the right; the extending it to the Leaves is the Thought of AGRICOLA, and if all he has aſſerted in this Caſe cannot be done, yet a great deal may. Dr. PARSONS, ſome Time ſince, ingeniouſly illuſtrated the Production of the *Polype* from Pieces of the Animal, by the Example of a Cutting of the Willow; and we may now call back the Subject, illuſtrating by that ſtrange Animal the univerſal Propagation of Vegetables from any of their ſolid Parts.

For this Trial by the Leaves, it will be proper to ſelect ſome Kind that is large and of a firm Texture in the Ribs, for Inſtance the Laurel. To give this a fair Trial proceed thus: chuſe a dozen of fine, perfect, and ſound Leaves of Laurel, take them carefully off from the Stalks, and take no Bud with them. With a ſharp Knife ſmooth the End where they were pull'd off from the Tree; and wiping it perfectly dry, cover the whole Wound perfectly with the Cement.

Open a Trench two Inches and a half deep in a ſhady Border, and let the Mould be fine. Lay in theſe Leaves ſo deep, that two thirds of each may be covered with the Mould. Preſs it every Way cloſe about the Leaf, and give the Border, when they are all in, a gentle Watering. Shade them for ſome Days, as in the planting of tender Cuttings, and afterwards defend the Ground by a Piece of Hawthorn, or ſome other ſecure Method; for the Operation of Nature is ſlow in this Caſe.

By Degrees the Leaf will moulder away, all but the principal Ribs; but theſe will ſhoot out Roots in that Part which is under the Ground, and will run up into Branches above.

CHAP. III.

Of raiſing a Tree from the BUD.

THIS appears at firſt Sight the moſt rational of all the Undertakings: we know that in a Bud are contained the Rudiments of the future Branch, and that in a State of growing. They require only Time to increaſe in Bigneſs, and after that being taken off and planted as Cuttings, they would ſend out Roots and grow into ſo many Trees; therefore all that can be required to their Succeſs in this Operation, is to promote their ſending out ſuch Roots at once; to this they are ſufficiently diſpoſed in the Bud; the only Danger is its rotting from the large Wound made in taking it off; and as this is prevented by the Cement, there is the faireſt Proſpect of Succeſs.

Chuſe for this Purpoſe any Tree which has Buds, or the Rudiments of Branches in the Boſoms of the Leaves. Take off a Leaf carefully with the Bud entire, wipe the wounded Part after you have made it perfectly ſmooth, and cover it with the Cement: then plant it in the ſame Manner in a ſhady Border, at ſo ſmall a Depth that the Top of the Bud may have the Advantage of the Air; it will thus riſe up to a regular Shoot; and a Number of theſe being raiſed together, are to be removed at ſix Inches Height into a Nurſery Bed, and treated as other Kinds.

* * *

CHAP. IV.

Of propagating by the Branches in large PIECES.

THIS is the Method by Roots transfered to the Branches; and in the preſent Inſtance where large Pieces of the Branches are uſed, it may be conſidered as another Way of propagating by Buds.

Cut off a Branch or Shoot from a Tree which has a great Number of Buds upon it, take off ſo many of theſe as to leave only ſuch a Number as may ſtand at three Inches from one another. Cover the Wound at the End, and all the others made by taking off the Buds, with the melted Cement. Open a Trench in a ſhady Border of the Length of the Branch, and lay it thus prepared, horizontally in the Trench; draw the Mould well about it, and preſs it every where cloſe; cover it about half an Inch, and give a gentle Watering; ſhade the Place for ſome Time.

The Buds will all ſhoot up in Branches, and there will be Roots produced in other Parts of the Branch.

When the Shoots are four Inches high, the Branch muſt be taken up, and cut into as many Pieces as there are good Shoots: the Wounds at the two Ends muſt be covered with the Cement; and they muſt be planted in a Nurſery Bed. Let them be ſhaded and watered now and then, till they have taken Root; and they will afterwards require no other Care than is allowed to all Trees of a like Growth.

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CHAP. V.

Of Propagation by the Branches in ſmall PIECES.

THE Practicability of this is founded upon the ſame Reaſoning with that of the Growth from Parts or Pieces of Roots; and this we know to be the more eaſy and certain, by what we ſee in the common Method by Cuttings.

In general they would ſucceed better than they do, if the Bottoms or cut Part were covered at the Pith, with this Cement; and many Kinds would ſucceed this Way conſtantly, which are apt to fail in the common Practice.

I have obſerved that in thoſe Cuttings which have decayed, inſtead of ſtriking Root, the Bottom has been rotted when taken out of the Ground. This has led me to the natural Operation of covering the Pith with this Cement, when I repeated the Trial; and this with Succeſs. It is an Article of Conſequence in Gardening; and more Trials ſhould confirm it, for the Subject is yet too new for much Proof.

It would be a very acceptable Thing to the Nurſeryman, to be able with Certainty to raiſe every Kind of Tree from Cuttings; and we recommend it to him to try thoſe Kinds which are moſt apt to fail, again with this Advantage, before he gives up the Expectation.

This may be conſidered as a very great

Advantage in the common Way of propagating by Cuttings; but what AGRICOLA propoſes in the Multiplication by ſmall Pieces of the Branches, is of much greater Importance, as it gives the Gardener from the ſame Quantity of the original Tree, a much greater Number of new ones.

The Method is this. Take off a Branch from the Tree where it can beſt be ſpared, and firſt cut off all the Shoots. Then cut the large Branches as well as the Shoots into Pieces of about three Inches in Length, chuſing in the young Shoots thoſe Parts which have Buds preferably to others; becauſe they will yield the beſt and moſt regular Plants, though there is no Part that will not furniſh ſome tolerable ones.

Cut the two Ends of theſe perfectly ſmooth, and cover them with the Cement.

The beſt Method with theſe Pieces is to ſet a Pot of Cement over a gentle Fire that will keep it juſt melted; and wiping the two Ends perfectly dry, to dip them in the melted Cement. As much as is neceſſary to defend them from the Moiſture of the Earth, or as will ſtick to them, and they will then be in a Condition to plant.

Dig up a Border in the Nurſery where the Mould is good; and if it be not ſo naturally, add ſome Pond Mud and Cow Dung, let it be perfectly fine. Open Trenches all along this at a Foot Diſtance; and in theſe plant the Pieces with that which was naturally the lower End downwards: let the upper End ſtand half an Inch above the Surface, and preſs the Mould cloſe about theſe Pieces. Place ſome Hoops over the Bed, and draw over them ſome Mats or Canvas.

Let the two Ends be at all Times open, and about three Hours after Noon take off the Covering entirely; let the Bed remain open till ten o'Clock in the Morning, and then cover it as before: when the Mould is dry allow moderate Waterings; and by this Means there will be a good Plant from every Piece: ſcarce one in twenty will fail.

CHAP. VI.

Of ſhe tenderer KINDS.

BY theſe Methods the Generality of harder Trees and Shrubs may be propagated with an abundant Encreaſe; and the moſt tender will ſucceed in the ſame Manner, allowing them the Advantages of Heat underneath, and Shelter.

A Bed with Dung, hooped over as we have directed for raiſing the Cuttings of the tender Greenhouſe Plants, will be very proper for thoſe of a middle Degree of Hardneſs; and as for the moſt tender and delicate, they muſt be planted in Pots, and ſet in Bark Beds. There is no Reaſon why the uſual Advantages ſhould be denied to a Practice, which promiſes ſo conſiderable Profit to the Perſon who engages in it; and with theſe, the Growth is as certain as in any common Plantation.

The particular Cautions are theſe. That in theſe Bark Beds the Pots be large; for it will be bettter to raiſe a great Number in a few large Pots, than in more that are ſmaller; the Quantity of a Mould greatly aſſiſting in the Succeſs of the Operation: and that when the Shoots firſt appear above the Surface, they muſt be carefully defended from the Sun by ſhading the Glaſſes in the middle of the Day.

The Mould in general muſt be kept in a due Temper of Moiſture by proper Waterings; and theſe muſt be more frequent after the new Plants appear.

When they have four Inches Height they muſt be taken up, and planted out into little Pots, one in each, and they will then require only the uſual Care; to be watered at Times, to be ſcreened from the Sun till well rooted in the new Mould; and as they encreaſe in Size, to be ſhifted into larger Pots.

EDEN:

A

COMPLEAT BODY of GARDENING.

****

NUMBER LVIII.

For the latter End of *OCTOBER.*

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SECTION I.

FLORA, or the PLEASURE GARDEN.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

1. DWARF EVERGREEN PHASEOLUS.

Octob.

Pl. 58. Fig. 1.

THIS very ſingular and delicate little Plant, is extreamly worthy the Attention of the Gardener: the wild Freedom of its Growth, and Singularity of its Aſpect, make very good Amends for the Pains of raiſing and preſerving it. Thoſe who have written of the *American* Plants have named it; but the early Writers could have no Knowledge of it, for 'tis not found native in any other Part of the World.

BREYNIUS calls it *Phaſeolus minimus perennis Americanus, flore luteo foliis aſari lanuginoſis ſolitariis:* ſmall American perennial Phaſeolus, with yellow Flowers, and ſingle hoary Leaves reſembling thoſe of *Aſarabana.* COMMELINE, who raiſed it in the *Amſterdam* Garden, preſerved the ſame Name; and others after him.

The Root is white, thick, and hung with many Fibres.

The Stalks are numerous, weak, and of a pale green, often ting'd toward the Bottom with purple. They lie upon the Ground, or twiſt themſelves about Sticks, or entangle in various Ways with any other: this is a Token of Neglect; and the beſt Method is to allow them ſlight Supports.

The Leaves ſtand ſingly, and irregularly on the Stalks; they are roundiſh, but indented for the Footſtalks. Their Colour is a deep blackiſh green, and they are cover'd with a light greyiſh Hoaryneſs. Their Footſtalks are long, and often red.

The Flowers are minute, but very pretty: their Colour is a tawny rediſh on the Outſide, and a delicate yellow within: they riſe from the Boſoms of the Leaves uſually two together; ſometimes ſingly, ſometimes more than two, and they are ſucceeded by oblong Pods; containing ſometimes only one, rarely more than two Seeds.

Octob.

Each Flower has its Cup divided into five Segments, in ſuch manner as to repreſent two Lips: the upper one form'd of two, the lower of three of the Segments.

The Flower itſelf is papilionaceous.

The Vexillum is obtuſe, heart-ſhaped, and turn'd back at the Edges.

The Alæ are oval, and have long Bottoms, and they are nearly as long as the Vexillum.

The Carina is narrow, and turn'd about in a ſpiral Manner.

In the Centre are ten Filaments: nine of them coaleſce into a Body, and one ſtands looſe: they are placed within the Carina, and twiſted with it. The Style is ſingle, and is twiſted with them. It riſes from an oblong, compreſſed, hairy Rudiment of the Pod, and is terminated by a thick, hairy Stigma or Head.

The Coaleſcence of the Bodies of the Filaments is the Mark of the Claſs in this Inſtance; it refers the Plant to the *Diadelphia*, and their Number being ten, to the *Decandria*; this being only a ſubordinate Diſtinction in Claſſes, whoſe Character is taken from other Circumſtances.

Culture of this PHASEOLUS.

It is a Native of the warmer Parts of *America*, where it riſes frequent in their Thickets, twiſting itſelf among the Branches, and running often to the Height of four or more Feet. With us it will require a Stove to give it full Perfection; but it may be preſerved tolerably in the Greenhouſe in Winter, and open Air in Summer.

The Seeds are eaſily obtain'd from Abroad; or it will grow from thoſe which ripen here. The Method muſt be this:

Fill a Pot with rich Garden Mould within an Inch of the Rim, ſcatter on a Dozen of good Seeds, ſift over them a Quarter of an Inch of Mould, and ſprinkle on a little Water. Set the Pot up to the Rim in a Bark-bed, and when the Mould is too dry, give it a little more watering.

When the young Plants come up, let them at Times have a little Air; and when they are big enough to be removed, take them carefully up, and plant each in a ſeparate ſmall Pot. Set theſe alſo up to the Rim in the Bark, give them a gentle watering, and ſhade the Glaſſes from the Sun till they have taken Root.

Then give them Air by degrees, as at firſt, and when they are well eſtabliſh'd, remove them into the Stove.

As they increaſe in Size, let them be removed into freſh Pots, and at each Time let the whole Ball of Earth be ſhook out, the extream Fibres of the Roots trim'd round, and the Ball ſet upon an Inch of freſh Mould in the ſame Pot; and as much put in round it as will fill up the Space within, and cover the whole Ball an Inch deep.

Some freſh Mould ſhould afterwards be put in upon the Surface twice a Year, ſcraping off an Inch or more of the other; and thus the Plant will flouriſh as in its native Country, green all the Year; and elegant even without its Flowers.

2. GREEN FLOWERED SQUILL.

Pl. 58. Fig. 2. This is a very ſpecious and noble Plant; and to thoſe who conſider theſe Things leſs attentively, would appear a diſtinct Species from the common *Squill*. It is, however, no more than a Variety; differing in the Size of the Plant, and Colouring of the Flower: theſe Variations our more correct Student has been taught are not enough to conſtitute a ſpecifick Diſtinction; and tho' they are extreamly worthy the Notice of the Gardener, they ſink under his Eye into ſlight accidental Changes.

The Reader who remembers that the Generality of botanical Writers have made two Kinds of *Squill*, of the red and the white rooted Plant, *ſcilla radice rubra*, and *ſcilla radice alba*; and honour'd them with ſeparate Deſcriptions, though differing in ſcarce the leaſt Article beſide, will not wonder that this larger Plant, whoſe Root is neither white nor red, and whoſe Flower is greatly ſuperior to the common Kind, ſhould have appear'd to COMMELINE, who received it from *Africa*, a diſtinct Species. He will find however, that all its Variation is accidental; and that tho' this Author, and before him HERMAN, have called it *ſcilla Africana flore viridi parvo, bulbo ampliſſimo:* great rooted African Squill, with ſmall Flowers; he is to refer it to the common Kind.

This LINNÆUS characteriſes by the Structure of the Root, *ſcilla radice tunicata:* coated rooted Squill, a moſt abſolute Diſtinction from all the other Species: for though we join with them, according to the *Linnæan* Method, the *ſtarry Hyacinths*, there is not another coated Bulb among them.

The Root of this is well proportion'd to the Size of the Plant; it is as big as a Child's Head, of an oval Form, yellow, and compoſed of numerous thick Coats, the outer ones of which are variouſly broken; and hung at the Bottom with many thick Fibres. The Taſte of the Root is uncommonly nauſeous, and the Juice ſo ſharp that it bliſters the Skin.

The Leaves are oblong, broad, of a deep green, pointed, and hollow'd; they are alſo full of a thick acrid Juice: they are nine or ten Inches long, and of the Breadth of three Fingers. Theſe naturally appear in Spring; and when the Plant is ill managed, they are all the Produce.

The Stalk which ſupports the Flowers riſes naked; and is thick, round, juicy, rediſh, and four Foot high.

The Flowers are ſmall, but they are innumerable; they cloath the Top of the Stalk for more than two Foot; thick-ſet together in form of a Spike. Their Colour is mix'd of green and white; ſometimes they will be entirely green, and in that Caſe they are not inelegant, but the perfect Beauty of the Plant is, when the green is laid in thin Stripes upon a white Ground.

Each Flower is compoſed of ſix expanded Petals, and riſes naked from the Footſtalk.

In the Centre ſtand ſix Filaments; they are ſhort and ſmalleſt toward the Top, and are crown'd with oblong incumbent Buttons.

The Style is ſimple, of the Length of the Filaments, and terminated by a ſmall Head: it riſes from a roundiſh Rudiment of a Fruit, and is followed by a ſmooth oval Seed-veſſel, mark-ed with three Furrows, and form'd of three Valves: within it is divided into three Cells, in each of which are ſeveral roundiſh Seeds.

The Student can be at no Loſs for the Claſs of this Plant, its ſix Filaments refer it to the *Hexandria*, and the ſingle Style to the *Monogynia*, LINNÆUS's ſixth Claſs, and its firſt Section.

Culture of this SQUILL.

It is a Native of the Sea Coaſts of *Africa*, whence the vaſt Bulbs may be eaſily brought to *England*. If they be taken up when the Stalk is faded, and brought over in Nets hung up in an airy Part of the Ship, there will be no fear of their being received in good Condition.

The Compoſt for them muſt be this:

Mix equal Parts of freſh Paſture Mould, and Wood-pile Earth, and to a Buſhel of this put a Peck of wet Sea Sand; or if that cannot be had, the ſame Quantity of River Sand, or Pit Sand, clean waſh'd, and a Quart of Brine. Theſe ſhould be thrown up in a Heap for ſome time; and when the Roots are received, let as many Pots be prepared as there are of them. Though the Roots are large, let the Pots be ſmall in Proportion, two Inches clear round the Outſide of the Root is as much Space as is needful.

Lay an Oyſterſhell over the Hole of the Pot, to prevent its clogging up with the Mould; and if the Roots arrive in the Beginning of Summer, which is the beſt Time, plant one in each Pot. Firſt lay in two Inches and a half Depth of the Compoſt, then clean the Root, and ſet it upright: pour in more, ſhaking it down at Times to fill the Space about; and cover the Root an Inch above its Crown.

In this manner plant all the Roots. Then chuſe a ſhelter'd Part of the Nurſery, and open a Trench a Spade Depth and Breadth: ſet in the Pots in a Row, and draw the Mould about them: give them a very ſlight ſprinkling of Water, and let them ſtand thus till the Shoot appears; now and then watering them with a very careful and light Hand.

When they ſhew the Shoot above the Surface, raiſe the Pots half out of the Ground, and give every other Day a freſh Watering: a Week after this remove them into a Greenhouſe, continuing to water them from Time to Time; and let them ſtand near the Window, open to the Sun, and defended from all cold Winds; the Shoot will thus grow very quick, and flower in all its Glory.

3. WILLOW-LEAVED SHRUB ASCLEPIAS.

Pl. 58. Fig. 3.

This elegant and ſingular *Aſclepias* is very well worth the Attention of all who propagate curious Plants: it is of regular Growth, and pleaſing Aſpect; and not only of conſiderable Duration in the Time of flowering, but full of Singularity in the Fruit.

The late Writers have all named it; the firſt of them as an *Apocynum*, but the latter as an *Aſclepias*. HERMAN calls it, *Apocynum erectum Africanum, villoſo fructu, ſalicis folio.* PLUKENET, *Apocynum erectum elatius ſalicis auguſto folio, folliculis piloſis.*

LINNÆUS and VAN ROYEN conſider it as an *Aſclepias*, and the former very diſtinctly names it, *Aſclepias foliis revolutis lanceolatis caule fruticoſo:* ſhrubby Aſclepias, with the Leaves lanceolate, and turn'd at the Edges.

The Root is ſpreading, and hung with many long Fibres.

The Stem is woody, and cover'd with a brown Bark. The Branches are numerous, and the young Shoots are green, ting'd often in part with red.

The Leaves on the lower Part of the Branches ſtand in Pairs, but toward the Top leſs regularly: they are long, narrow, and of a faint green, curled frequently at the Edges, and mark'd with rediſh Ribs.

The Flowers riſe from the Boſoms of the Leaves in ſmall Umbells, ſix or eight in each. Theſe have a long common Footſtalk, and from the Head of that as many ſeparate ſhorter Footſtalks as there are Flowers. Theſe ſpread out, and form the open rounded Head; and the whole Umbell naturally hangs or droops a little. The Colour of the Flowers is a pale whitiſh green in the Petals, and a duſkier Tinge with ſomewhat of yellowiſh or hoary in the Middle.

Each Flower is compoſed of five Segments of a Petal, and a conſpicuous Nectarium, and is placed in a Cup form'd of one Piece, cut into five ſlight Parts.

The Cup is ſmall in compariſon of the Flower, and is permanent.

The five Segments of the Flower reſemble ſo many Petals: they are of an oval Figure, but pointed, and lightly turn'd with the Sun.

The Nectaria are equal in number to the Segments of the Flower, and they ſurround the Parts of Impregnation. Each is of a Figure approaching to oval, but obliquely auriculated on the Outſide; and from the Baſe riſes a kind of ſmall Horn, which bends toward the Parts of Impregnation.

Beſide this, there is a truncated Body, which covers the Organs of Impregnation, with five Scales at the Edge, and as many Openings at the Sides: this is an Appendage of the Nectarium.

The Buttons are five, they have ſcarce any Filaments, and they are buried, as it were, by the truncated Body of the Nectarium among the Scales.

This is a moſt ſingular Conſtruction of a Flower, it is peculiar to the *Aſclepias's*, but univerſal among them; and it therefore moſt plainly and certainly refers this Plant to the reſt.

There are two Rudiments of Fruit to each Flower; they have ſcarce any Styles, but are crown'd with ſimple Stigmata, and are at length ripen'd into two large, oblong, in flatted Pods; containing numerous Seeds wing'd with Down, and a looſe Receptacle.

The five Buttons refer the Plant to the *Pentandria*

tandria of LINNÆUS, and the two Heads to the *Digynia*, the fifth Claſs of that Author, and its ſecond Section.

We have occaſionally obſerv'd, that where there are no Filaments, the Buttons are to be counted in their Place; and where there are no Styles, the Stigmata or Heads. This Plant ſhews an Inſtance of both Caſes.

Culture of this ASCLEPIAS.

It is a Native of the warmer Parts of *Africa*, where it lives freely in a dry ſandy Soil, expoſed to the full Sun: but though it bears this Heat, and Barrenneſs, 'tis not the Soil or Expoſure moſt ſuited to its thriving.

When it happens to fall into the Side of a Thicket, where there is Shelter, and a better Mould, it ſhews more Vigour and more Beauty. According to theſe Differences it will produce Flowers of deeper or paler Colour in a great Variety; and we ſee ſome conſiderable Change in them in this Reſpect, but it is in the State wherein we have repreſented them they are moſt elegant.

The Gardener has his Choice of raiſing it from Seed, or by Cuttings: but there is no Advantage in the raiſing it from the Seed, which is the more tedious Way; and the Cuttings take root ſo eaſily, that it is better to depend on them.

The beſt Seaſon for planting theſe Cuttings is *June*, and they ſhould have the Advantage of a Hot-bed. In this let them be kept till they have taken good root; and then let them be taken up, and planted ſeparately in Pots, of one of the light Compoſts.

They ſhould then be ſet in the Hot-bed again, and ſhaded from the Noon-day Sun. They ſhould alſo be water'd every Evening; and when they are well eſtabliſh'd, they ſhould be more perfectly harden'd by keeping open the Glaſſes, and then brought out among the Greenhouſe Plants.

They muſt be early in Autumn taken into the Houſe, and removed into larger Pots, as they increaſe in Size; always preſerving the whole Ball from the former Pot about them, and triming the Fibres that hang from its Edges.

They will thus grow to ſix or eight Foot high, and flower as well as in their native Country.

4. CORYMBOUS LOBATED SPIRÆA.

Pl. 58. Fig. 4.

This is a very elegant Shrub, brought long ſince from *North America* into our Gardens; and for its Singularity as well as Beauty, very worthy to be preſerved in all Collections. Thoſe who firſt ſaw it flower, greatly miſtook its proper Genus: they refer'd it to the Euonymus, or ſpindle Tree, though neither Flower nor Fruit had any true Reſemblance to that Kind.

COMMELINE calls it *Euonymus Virginiana, ribeſii folio, capſulis eleganter bullatis:* Currant-leav'd Virginian Euonymus, with elegantly bullated Fruit. LINNÆUS refer'd it to the *Spiræa*, and VAN ROYEN follows him: he calls it *Spiræa foliis lobatis, ſerratis, corymbis terminalibus:* lobated, and ſerrated leav'd Spiræa, with Cluſters of Flowers terminating the Branches.

The Root is divided into many Parts, and hung with numerous Fibres.

The Stem is cover'd with a pale brown Bark.

The Branches are numerous, and greyiſh; the extream Shoots are of a freſh green, ting'd with red, and they have four Ridges which give them a ſquare Aſpect.

The Leaves are placed in a ſcatter'd Manner upon the Branches, and are broad, and of a pale green: they have long green Footſtalks, and they are divided in an irregular Manner into three Parts, uſually, ſome into five, and others ſcarce at all. The Diviſions are deep, but not to the Baſe; and they are all notch'd round the Edges.

The Name of Currant-leav'd is not given amiſs to this Shrub: we have obſerv'd, that all the Leaves are not alike, but the Generality of them very much reſemble thoſe of the Currant Buſh.

The Flowers are numerous and elegant; they are ſmall in themſelves, but they ſtand in great Tufts, after the manner of Umbells, at the Extremities of all the Branches; and they are white, with a light and delicate bluſh of Crimſon.

Each Flower has its ſeparate Footſtalk, which is of a faint green, ting'd with red.

The Cup is form'd of a ſingle Leaf, and is lightly divided into five Segments. The Baſe is plain, and the Segments are acute.

The Body of the Flower is form'd of five rounded, but ſomewhat oblong Petals, which are inſerted into the Cup.

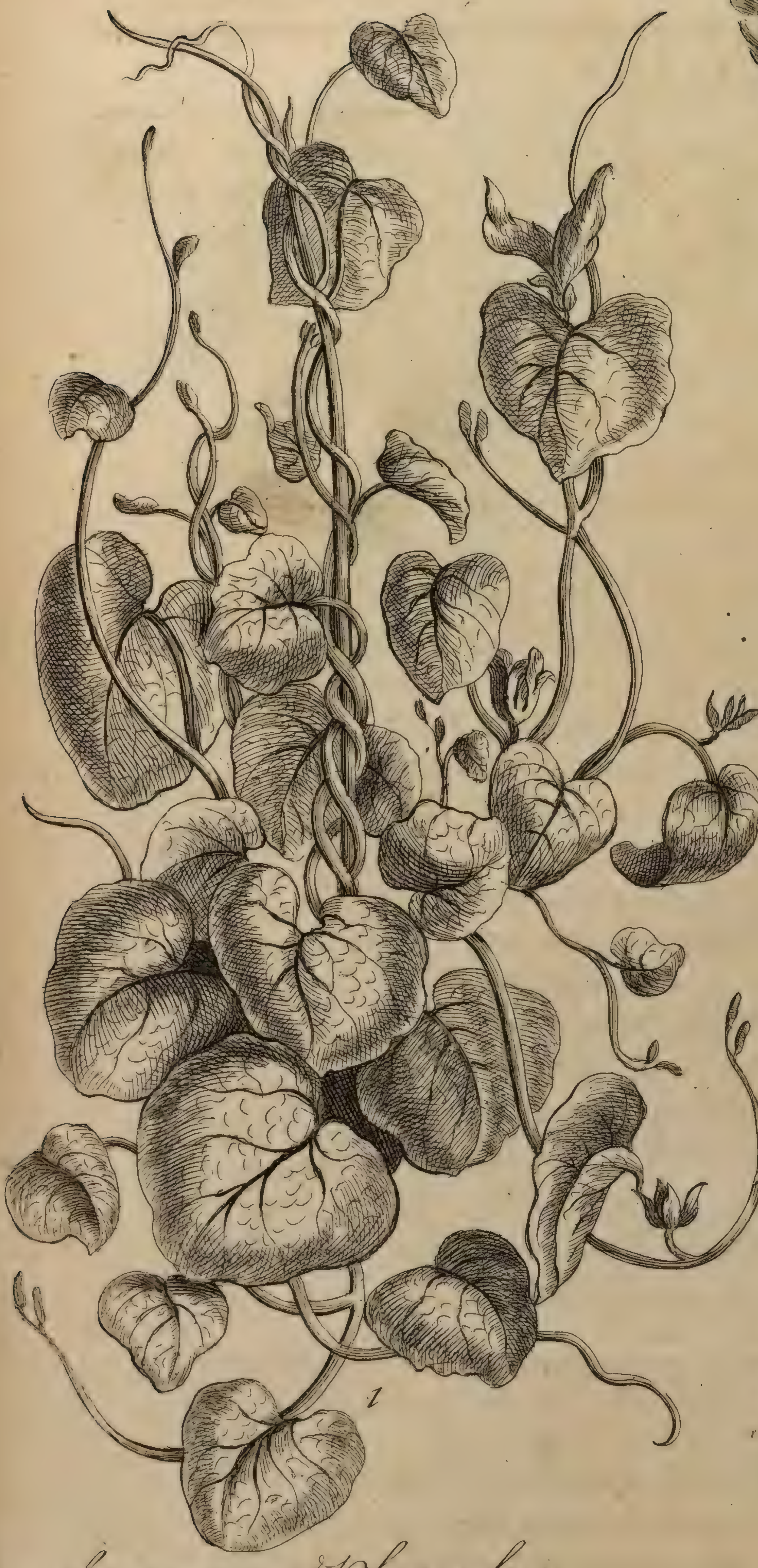
The Filaments are numerous, upright, and inſerted into the Cup; they ſtand cluſter'd together, and they are crown'd with roundiſh Buttons.

The Rudiments are three, they are crown'd with ſo many Styles, and theſe with thick Heads: the Styles are equal in Length to the Filaments, ſo that their Heads ſhew themſelves diſtinctly in the Flower.

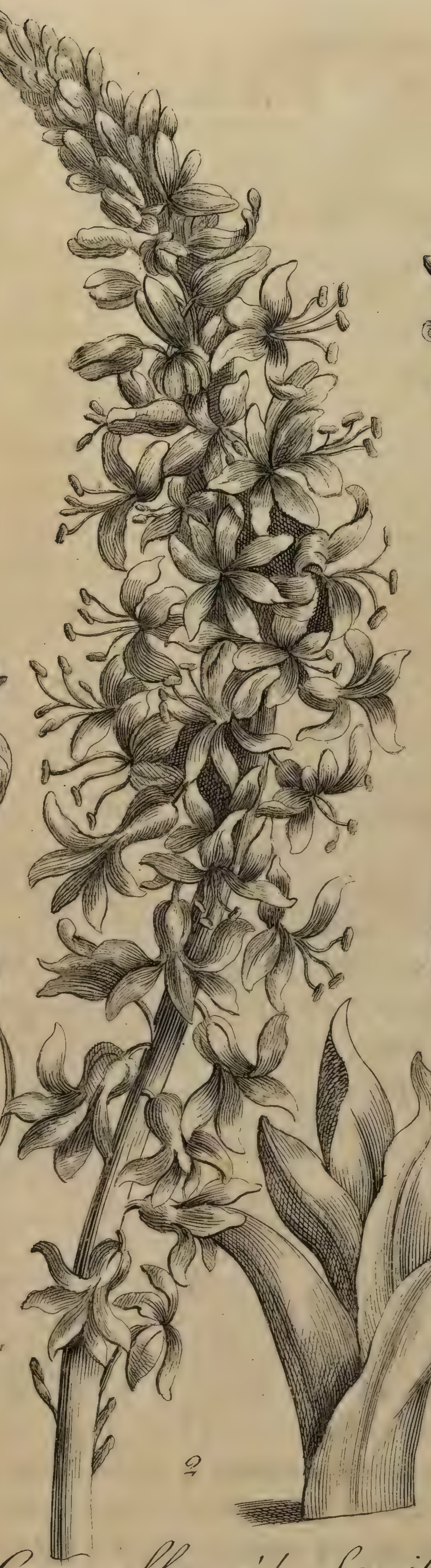
The Seed-veſſels are oblong, compreſſed, and pointed; they are equal in number to the Rudiments, and each contains a few ſmall Seeds.

The Number of Filaments, with their Inſertion into the Cup, ſhews the Plant to be one of the *Icoſandria*, and the three Styles refer it to the *Trigynia*.

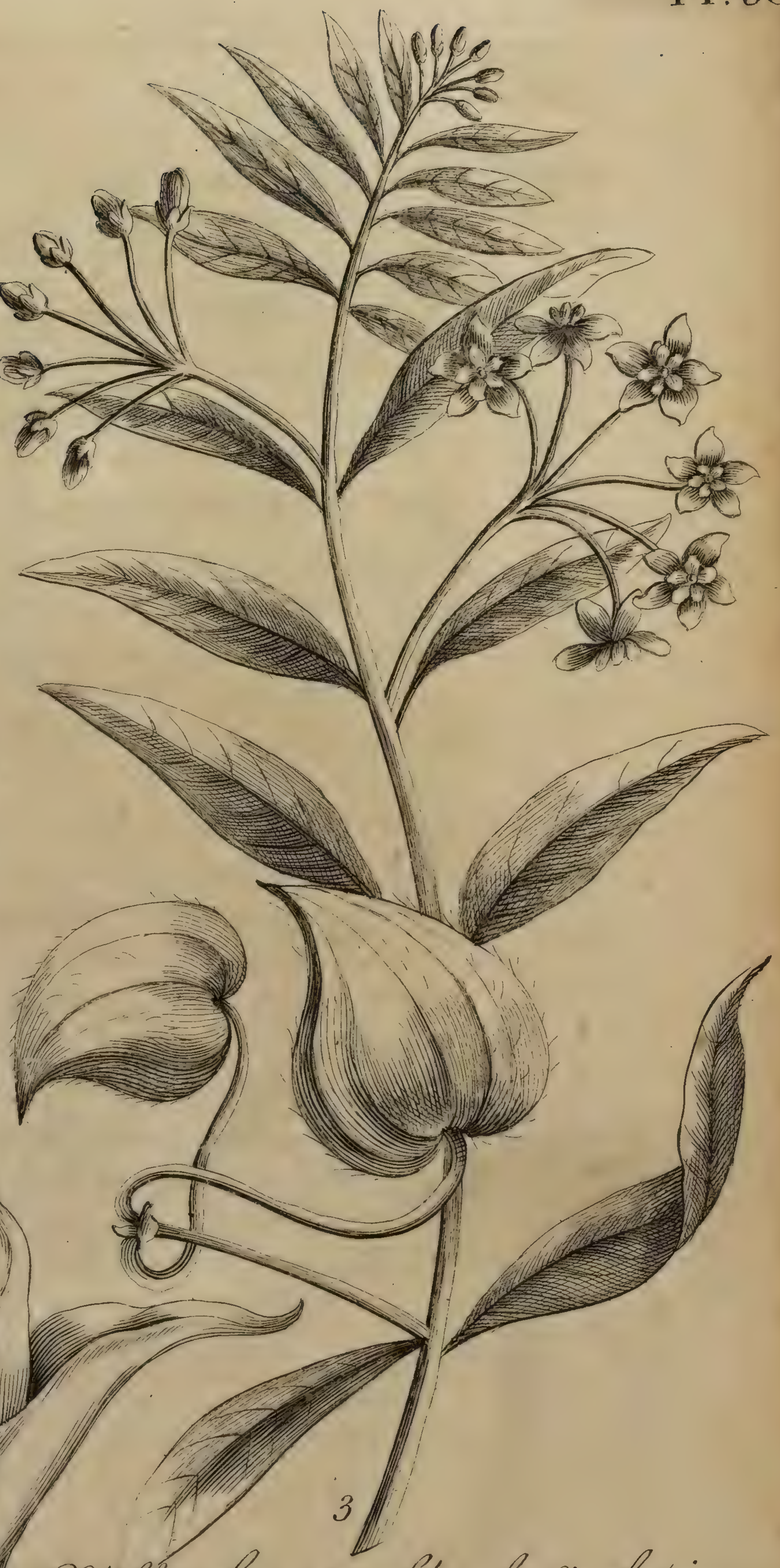
This is its abſolute Place as a Plant; but as a Species of *Spiræa*, LINNÆUS has placed it among the *Pentagynia*; the Generality of the others have five Styles. Indeed this Genus is too compreſive to be juſt, he ranges under it the *Spiræa*, of others the *Filipendula*, *Ulmaria*, and *Aruncus*, though



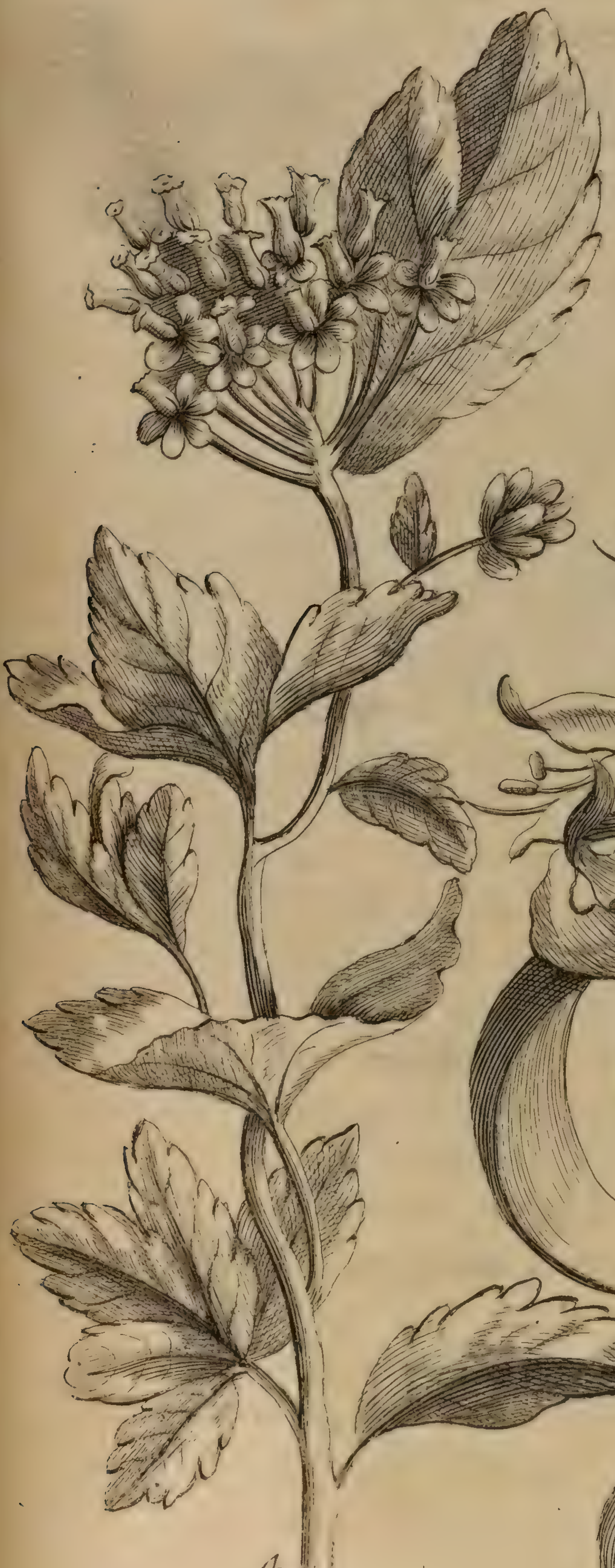
Dwarf evergreen Phaseolus



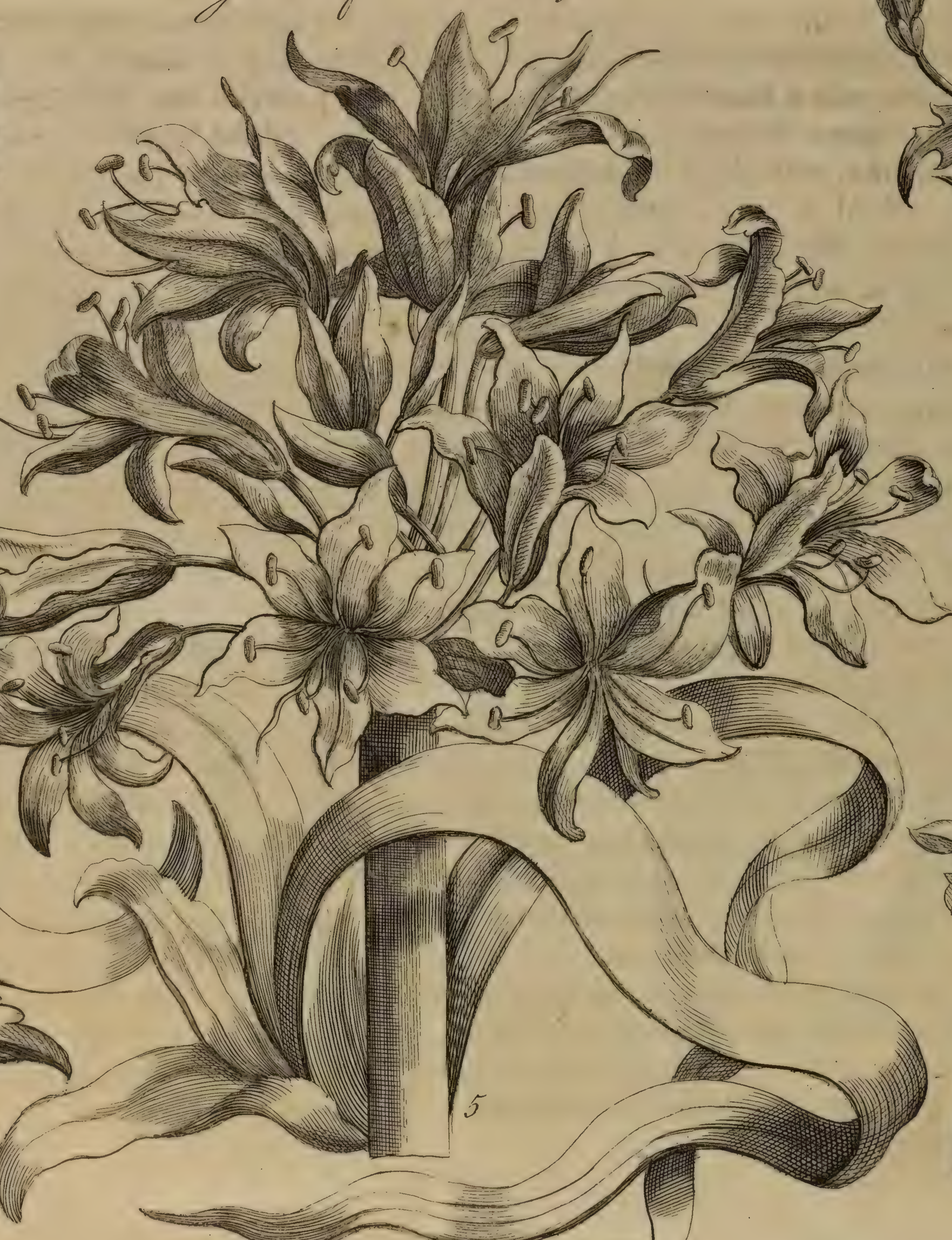
Green flower'd Squill



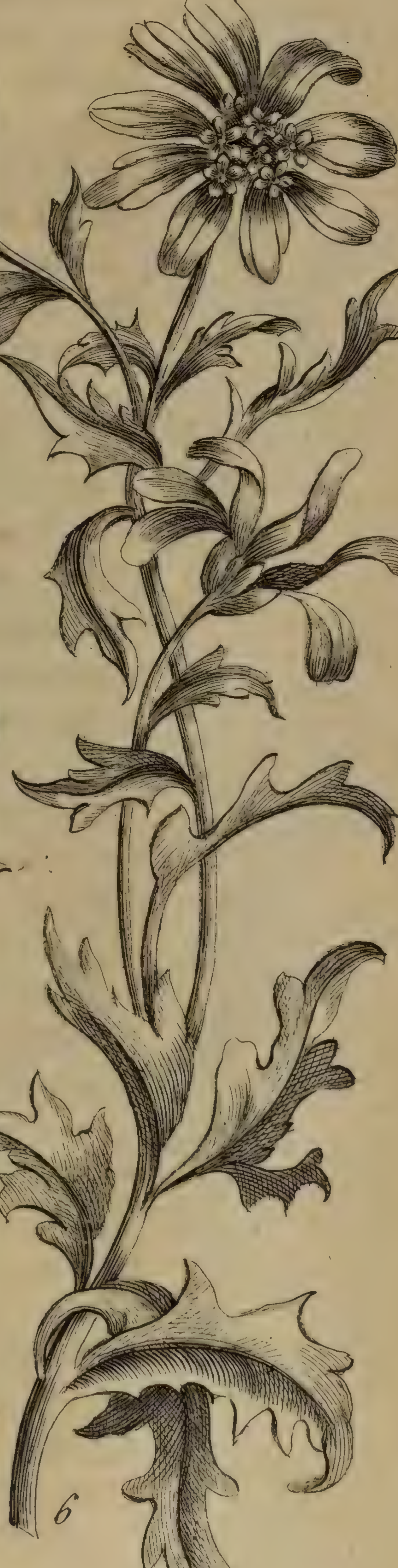
Willowleav'd Shrub Asclepias



Corymbous lobated Spiræa



Purple Æthiopian Amaryllis



Prickly Osteospermum

though poſſible theſe have very eſſential Diſtinctions. That this Plant has only three Styles, that the *Aruncus* has Male and Female Flowers on ſeparate Plants, and belongs therefore to the *Diœcia*, that the *Ulmaria* has twiſted, and the *Filipendula* rotated Capſules. Theſe are Differences in Nature, but the Genus is made to contain them all.

Culture of this SPIRÆA.

It is a Native of *North America*, where it thrives beſt in a deep rich Soil: with us it will very well bear the open Ground, and ſtand all Weathers; and may be propagated by Cuttings, or by Layers; but the eaſieſt Way of all is by the Suckers, which it naturally ſends up in Abundance about the old Plants, and which take root freely.

The Suckers ſhould be taken off in Autumn, and planted at two Foot Diſtance in a Nurſery-bed, to acquire a due Size for the Garden.

If no Uſe were made of them, it would be proper annually to take them off, becauſe they disfigure and exhauſt the old Plants; and they grow with ſo little Trouble, that it is pity any body ſhould loſe the Opportunity of raiſing ſo many pretty Plants.

The Layers take root freely enough, and the Cuttings ſeldom fail, if the hollow or pithy Part be ſecured by a Piece of Bees-wax.

The Layers will be fit to tranſplant at the End of a Year; and the Cuttings, if they have the Advantage of a mellow Soil, and ſhady Situation, will take ſufficient Root to be removed in two Months.

Whichever Way the Tree is raiſed, it muſt be train'd in the ſame Manner. If left to Nature, it grows a wild ſtragling Shrub; and 'tis much better to carry it up with a ſingle Stem, and not to ſuffer it to have too many ſide Branches.

When the Shrubs are brought into their Places in the Garden, the Ground ſhould be well broke all about them, and their Heads finally trim'd to due Form: after this they will require only to be clear'd of their Suckers, and reduced to Shape every Autumn.

If there be any Branches that croſs and gall each other, one of them muſt be cut off; and any dead Wood muſt be cut out from the Head: the Ground ſhould from Time to Time be broke about them, and always kept clear from Weeds; and about the Time of their flowering they ſhould have good Waterings.

5. PURPLE ÆTHIOPIAN AMARYLLIS.

Pl. 58. Fig. 5. There is ſcarce a Flower the Gardener raiſes ſuperior to this; whether we conſider the Number, Size, Colouring, or Fragrance of the Bloom; but taking all together, very few can be ſaid to equal it. It has been deſcribed by ſome of the Writers in Botany of conſiderable ſtanding; and has been many Years eſteem'd in *Holland* one of the greateſt Acquiſitions from that Quarter of the World whence we have named it; but in *England* it is leſs known than ſo elegant and noble a Plant deſerves; notwithſtanding there is no great Difficulty in the Culture.

Cornutus refer'd it to the *Narciſſus* Kind, as the Writers of his Time did many of the Species of this elegant Genus: he calls it *Narciſſus major indicus ſerotinus*. COMMELINE calls it, *Lilio narciſſus Africanus platicaulos humilis flore purpuraſcente odorato:* low flat-ſtalk'd Lillio Narciſſus of *Africa*, with ſweet ſcented purple Flowers.

The Characters of the bulbous Plants were never aſcertain'd till LINNÆUS gave them with Preciſion: his Genus *Amaryllis* comprehends this Plant; and as he has not named it, we may properly call it after his Manner, *Amaryllis ſpatha multiflora, corollis æqualibus, foliis acuminatis:* many flower'd Amaryllis, with regular Flowers, and ſharp pointed Leaves. This will diſtinguiſh it from all the other known Species of *Amaryllis*, and particularly from the oriental Kind, we have deſcribed in a preceding Number, with which, ſo long ago as in COMMELINE's Time, it was uſually confounded; and from which it does not ſeem yet to be well diſtinguiſh'd by the Generality of Authors, though perfectly different in the Shape of the Leaves, and regular Flowers.

The Root is large, roundiſh, and of a duſky yellow Colour: from its Baſe run many very thick, white Fibres.

The Leaves are numerous, and they lie ſcatter'd irregularly upon the Ground: they are very long, moderately broad, of a pale green, and ſharp pointed, and they are mark'd with large longitudinal Fibres.

The Stalk is very thick, eight Inches high, flatted, firm, and of a pale green, often ſtain'd with red.

There are no Leaves, nor Rudiments of Leaves on this, but at its Top a membraneous Scabbard, which contains the Flowers. Theſe are numerous, very large, and extreamly beautiful: they riſe in a kind of conic Head, twenty or more in number, and ſeparate to ſome diſtance as they open. Their Colour in the Bud is a pale crimſon, ſtain'd in different Places with purple; but as they open, they grow deeper, and when full blown, they are univerſally of a ſtrong and fine purple. Their Scent is in the higheſt degree fragrant, and toward Evening eſpecially it is overpowering.

Each Flower is compoſed of ſix Petals, of a lanceolated Form, equal in Size, and opening regularly every Way, and there is no Cup to them beſide the general Scabbard.

In the Centre ſtand ſix Filaments crown'd with oblong, incumbent Buttons.

The Rudiment of the Fruit is oblong, and furrow'd; it ſtands underneath the Receptacle of the Flower, and from it riſes a Style equal in Length and Thickneſs to the Filaments, with a ſmall three-parted Head.

The Seed-veſſel when ripe is oval, and form'd of three Valves; it is divided within into three Cells, and in each are many Seeds.

The Claſs and Place of the Plant are ſeen diſtinctly in the ſix Filaments, and ſingle Style: the firſt refer it to the *Hexandria*, the ſecond to the *Monogynia.*

Culture of this AMARYLLIS.

It is native of *Æthiopia*, and lives there in looſe and warm Soils; with us it will require the Choice of ſuch a Compoſt as reſembles that kind of Earth, and all the Aſſiſtance of additional Warmth.

The Roots will bear to be kept out of the Ground a conſiderable Time, when taken up at a proper Seaſon. They were thus firſt brought into *Holland*, and may from thence, or even from their native Country, be brought hither.

When they are received, which ſhould be early in Summer, a Compoſt ſhould be prepared for them of ſome of the light Kinds, from one of the Heaps made up for other Purpoſes, with a fifth Part of rotted Dung, from an old Melon-bed.

As many Pots muſt be got ready as there are Roots; ſome looſe Gravel muſt be thrown into the Bottom, and over this two Inches of the Mould: upon this the Roots muſt be placed, and the Pot filled up, ſo that it may be cover'd two Inches.

The Pots muſt then be ſet under a Frame, and the Earth at Times moiſten'd. The Shoot will appear in five or ſix Weeks, and after this they muſt be water'd more largely, and have more Air.

When this has advanced to ſome Height, they muſt be removed into the Stove, where they will flower in perfect Beauty.

The Flowers do not come forth all together, but in a long Succeſſion, ſo that one Plant will be three Weeks from the firſt Flower to the Decay.

After this the Pots muſt be every Spring refreſh'd with ſome new Mould, the Top of that in the Pot being taken off for that Purpoſe; and once in two Years the Roots muſt be taken up, and the whole Quantity turn'd out. Its Place muſt be ſupply'd with freſh Compoſt, the Roots muſt be clear'd, and their Off-ſets taken away, and planted in other Pots, to bring them to a Condition of flowering; and this Way the Plant will be propagated in tolerable Quantity.

6. PRICKLY OSTEOSPERMUM.

Pl. 58. Fig. 6.

This elegant ſhrubby Plant is another of thoſe Additions to our Collections of Exoticks, which we owe to the *Dutch*; who brought it from the hotteſt Parts of *Africa*. The old Authors were not acquainted with it, and thoſe among the later who have deſcribed it, ſcarce knew till LINNÆUS by what Name to call it: VOLKAMER rank'd it among the *Chryſanthemums*, adding, *Africanum frutescens ſpinoſum*: ſhrubby, prickly African Chryſanthemum.

COMMELINE, who ſaw it was like the *Chryſanthemum*, but not the ſame, called it *Chryſanthemoides*, and added, *Oſteoſpermum Africanum, odoratum ſpinoſum & viſcoſum*: prickly and clammy, ſcented, hard ſeeded African Chryſanthemoides.

LINNÆUS finding ſeveral other Plants, as well as this, though reſembling the *Chryſanthemum*, to differ in eſſential Characters both from that and all the other Genera of Plants, put them together under this generical Name, *Oſteoſpermum*; he adds as the Diſtinction of this Species, *Spinis ramoſis*: Oſteoſpermum, with branch'd Spires.

The Root is divided into many Parts, and hung with a Multitude of Fibres.

The Stalk is round, upright, woody, and a Foot and half high, divided into numerous Branches, and thick ſet with Leaves.

The main Stalk is brown; the Branches and young Shoots are paler, and they are often ting'd with red.

The Spines or Prickles have a very ſingular Situation, they are ſeen no where but on the Top of the Plant: the Extremities of the Shoots divide into them, and they are firm and branch'd, three or four Points proceeding from one common Baſe. Theſe terminate thoſe Branches on which there are no Flowers. When a Flower riſes at the End, there often are none, at the moſt only ſome very ſlight ones on the Sides of the Stalk.

The young Shoots are uſually a little downy.

The Leaves are numerous, and they ſtand without the leaſt Order or Regularity upon the Branches. They have no Footſtalks. They are oblong, deeply and irregularly notch'd, ſomewhat in the Bucks-horn Manner, and ſharp pointed; and they are of a firm Subſtance, and faint green.

The young Shoots and all the Leaves are clammy to the Touch, and ſtrongly ſcented; they ſeem to ſweat out a ſoft Reſin, and the Smell is ſtrongly reſinous, with a peculiar Flavour not unlike that of Balſam Capivi.

The Flowers are large, of a very elegant Structure, and yellow: they terminate the Branches, and have often the Appearance of growing from the ſwoln End of the Spines, which are loſt in their Baſes.

The Structure of the Flower demands the greateſt Attention of the botanical Student; 'tis of the *Syngeneſious* Kind, and they are all of curious Conſtruction, but none more than this.

The entire Flower conſiſts of a Number of Floſcules ſurrounded by Rays, and contained in a common Cup. This is of a hemiſpherick Shape, and divided into eight or more Parts; ſimple at the Baſe, and the Segments are pointed.

The tubular Floſcules in the Diſk are numerous, they are alſo large, and they expand in the Manner of ſo many regular Flowers: theſe contain both male and female Organs of Impregnation.

The Rays which ſurround theſe are about ten in Number; and, as in the others of this Kind, they are only female.

The tubular Floſcules of the Diſk are ſmalleſt at the Bottom, wider to the Top, and there divided into five regular obtuſe expanded Segments. In each of theſe are placed five very ſhort capillary Filaments, and as many Buttons. Theſe are long and narrow, and they coaleſce as in the other Plants of this Claſs into a cylindrick Body.

The Rudiment of a Seed is placed under each, but it is ſlight and frivolous; there riſes from it a ſingle Style of the Length of the Filaments, but weak and ſlight; and at the Top of this is placed an ineffectual Stigma or Head.

In the others the Rays are long, narrow, and naturally divided into three Parts at the Extremity; but as they turn back their Ends when this is full open, theſe Diviſions are not well ſeen. At the Baſe is a globular Rudiment, and from this a ſtout though ſlender Style, crowned with a thick Head nipp'd at the End.

The Floſcules of the Centre ripen no Seeds; but after each of theſe Rays, in which there are no male Parts, there appears a regular Seed; which owing its Impregnation to the Buttons of the tubular Floſcules, by Degrees hardens, and becomes coloured, retaining its globular Form, and includes a Kernel of the ſame globular Shape. The Covering or Shell is of a bony Hardneſs; and the Kernell white and well taſted.

The Claſs of the Plant is found in the Coaleſcence of the Buttons in the tubular Floſcules: LINNÆUS has made this the Character of a Claſs, the Name of which is *Syngeneſia*: and as the Rudiment under theſe tubular Floſcules fade without producing Seeds, and thoſe of the Verge have no Way of Impregnation but by means of their Duſt; the Section to which it belongs is that of the *Polygamia neceſſaria*.

Culture of this OSTEOSPERMUM.

The Plant, though a Native of *Africa*, will bear our Summers in the open Air, and only wants the Shelter of a Greenhouſe in Winter. The Seeds ſometimes ripen perfectly with us, and in that Caſe the beſt Plants will be produced from them, but the more uſual Method is by Cuttings.

If the Seeds be good, or if freſh ones can be procured from *Africa*, they muſt be ſown early in Spring upon a common Hot Bed; and when the Plants are ſtrong enough to be removed, they muſt be tranſplanted into Pots placed under a Frame, and by Degrees hardened to the Air; after which they muſt be ſet out among the Greenhouſe Plants, and houſed with them in Autumn.

The Method by Cuttings is very eaſy, *June* is the beſt Seaſon. They ſhould be taken from a flouriſhing Plant, and they will require only a Bed of good Mould, with due Shelter from the Sun, and frequent Waterings. They will in this Manner take Root in about five or ſix Weeks, and ſoon after it will be proper to remove them into Pots. The beſt Mould will be ſome one of the light Compoſts, with the Addition of about one ſixth Part River Sand.

When potted they muſt be ſheltered as at firſt, till they are thoroughly rooted in the new Mould, and this muſt be promoted by frequent Waterings; when they are well eſtabliſhed, they muſt be put out among the Greenhouſe Plants: as they increaſe in Bigneſs, they muſt be removed into freſh Pots, larger than the former; but they never ſhould have them very large, for nothing is more prejudicial. A great Quantity of Mould occaſions the Plants to ſhoot out into numerous Leaves and Branches, but to produce few Flowers, the Intent is to make the Plant flower abundantly, and continue it through the Winter; but this is prevented by the over-potting.

When the Plants are new potted, the Roots upon the Surface of the old Ball of Earth ſhould be trimm'd; and after the potting they ſhould be watered every other Day; this will occaſion the cut Ends of the Fibres to ſhoot out new ones; and the freſh and looſe Mould will encourage them in it. In this Manner they will ſoon be brought to flower; and by this Management, if the Flowers are taken off as they begin to fade, the Plant will be covered with Leaves all the Year.

SECT. II.

Of variegating the Leaves of PLANTS.

WE have reſerved to this Place one of the moſt difficult Parts of the Gardener's Profeſſion; perhaps the moſt difficult of all.

Many who have practiſed the Arts of Culture will be apt to give it a yet more diſcouraging Term; and either never having try'd or having been diſcouraged by wanting Succeſs, they will call it impoſſible. To theſe we anſwer by this plain Principle, founded upon whatever elſe we know, and in ſome Degree confirmed by Experience in this, that whatever Nature does in the Changes of the vegetable Creation, Art may imitate.

In ſome Inſtances, under a due Conduct, it will exceed whatever is done in the ſame Way by Nature; in others it will fall ſhort of her Productions: what will be the Event in the preſent Inſtance is not as yet to be determined becauſe the Trials are too few; but this plain Aſſertion we may make: the Leaves of Plants may be variegated by Art, becauſe we have ſucceeded in doing it; and when we are ſure ſomething abſolute is in our Reach, 'tis very difficult to ſay where the Effects of ingenious Labour may ſtop.

Nature firſt gave the Hint for doubling of Flowers, and we find in many Inſtances Art can tread happily in her Steps: the Gardener has ſucceeded in raiſing double Flowers of many Kinds from Seed, while he has followed a Practice little underſtood.

We hope from the Rules we have laid down in a former Number on that Subject, the Succeſs in this Way will be greater; and not only better Flowers in the Kinds uſually doubled will be produced, but many will be doubled which the Gardener did not ſuppoſe capable of that Addition. Upon the ſame Principle we ſhall proceed in this more difficult Reſearch of the Variegation of Leaves, conſidering firſt what is known upon the Subject, and what may be farther deduced from that Knowledge; and then laying down the Rules for attempting the Thing regularly in Plantations.

We ſhall not only examine what Nature does, but ſo far as the Cauſes appear, how ſhe does it; adding what Chance has diſcovered in our Plantations, for to Chance we muſt acknowledge all is owing that is yet known concerning it; and from theſe Premiſes we ſhall deduce ſuch Concluſions as they will ſufficiently ſupport, and thence the Rules for the Practice.

CHAP. I.

Of the Effects of Nature in the ſtriping and blotching the Leaves of Trees.

SO much Analogy we muſt allow between the Flowers of Plants and their Leaves, that whatſoever Cauſe can affect a Change in the Colour of the one, may be naturally ſuppoſed to have ſome Power alſo in Regard of the other. This Obſervation is uſeful, becauſe in the State of Nature we much oftener ſee Changes in the Colours of Flowers, than in the Leaves of Plants.

The common Variation in Flowers is from their natural ſtrong Colours to become white. In ſome Leaves we ſee this alſo happen, but more frequently the Change is into yellow.

The delicate Structure of Flowers renders them more ſuſceptible of this Change than the Leaves, which are more groſs and hard: this is the Reaſon why in Nature we ſee Flowers without their Colour, much oftener than Leaves ſtain'd with yellow; and that we find the laſt very common in Gardens, is owing to the Labour and Care of the Gardener, who when he has one ſuch Plant never fails to propagate it farther. Nature aſſiſts him in this by continuing the Variegation in the increaſed Plants in a very ſurpriſing Manner.

The Colours of Flowers which are moſt frequently loſt, are a ſtrong blue, or a deep red. We ſee Inſtances of the firſt in the little Field Bell-flower, and in the Crowfoot Crane's-bill of the latter; in the bloody Crane's-bill, and Herb Robert; the Flowers of the two firſt are naturally of a ſtrong blue, and thoſe of the two others of a ſtrong red; particularly that named from this Circumſtance, Bloody. In theſe and in many other Plants, whoſe Flowers are naturally of the ſame bold Colours, we frequently ſee them white; and in the Bloody Crane's-bill particularly there is an intermediate State of Colouring between that deep Dye and abſolute white; in which the Flower is ſtreaked. This has been called the ſtrip'd Lancaſhire Crane's-bill, it having been firſt ſeen, and, ſo far as I know, only, wild in that Country.

Univerſally where the Plants are found with white Flowers the Soil is dry and barren. The Seeds of the common blue or red Flowers, produce upon thoſe Soils Plants with white ones; and the Seeds of thoſe white Flowers, ſown on good Ground, do not produce white flower'd Plants, but ſuch as are blue or red, in the Manner of thoſe of the Plants from which they were ſcattered, which had produced the white.

We ſee in this Inſtance, that Colour can be affected in a Plant by the Accidents of its Growth; and in what Manner it can be affected. We ſee the Effect and the Cauſe, and we are therefore certain of the Concluſion that may be drawn from it.

As much Moiſture tends to double the Flowers of Plants without altering their Colour; a dry and barren Soil tends to rob them of their Colour, without reducing the Size, or diminiſhing the Number of Petals. That which can affect the delicate and more remote Parts, may alſo have Influence on the groſſer and more near; therefore the Soil may have Power to alter the Colours in the Leaves of Plants: but ſomething more is requiſite for the Change of

Octob. Leaves; which is the preſent Subject. The Alteration made in Flowers, is by partly or totally taking away the Colour; but in Leaves the native Tinge is not only taken away, but another is brought on in its Place: in Flowers the coloured Juices are detained, but in the Caſe of Leaves they are altered. It appears therefore, that as only Barrenneſs is required to effect the one, ſome active Principle will be neceſſary to bring on the other.

The Juices of Plants are ſecreted through innumerable Glands, the Structure of which is admirable; they are not leſs complex than thoſe of our own Bodies; theſe Glands are contrived by Nature for different Juices of peculiar Kinds and Colours; but as in animal Bodies ſo in theſe of Vegetables, they are liable to Obſtruction and Diſeaſe; and in that Caſe the Juices will partake of the diſtempered Quality. Octob.

This is a great Cauſe of what we ſee in Nature; and we have obſerved, that ill-ſuited Soils cauſe the Diſtemper.

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CHAP. II.

Of the Courſe of Nouriſhment in PLANTS.

THE Gardener will find we lead him on in this new Attempt from the Source and Origin of all the Qualities of Plants: 'tis only by that general Knowledge he can attain the Management of ſo particular a Subject, as that of ſtaining the Leaves of Plants.

The Conſtruction of a Plant is this. There is a thin outer Rind, within that a thicker Bark, next under this is a more firm Matter, which ſurrounds the woody Part; and within this is a Hollow reſerved for the Pith.

All Plants which riſe with a Stalk, from the Whitlowgraſs of the Wall, to the Mountain Pine, have theſe five Parts; they are more diſtinct in ſome, and leſs in others, but a good Eye will ſee them in moſt, and a Microſcope in all.

The Pith, which is vulgarly ſuppoſed an inconſiderable Subſtance, and which ſome Authors of Credit have only thought a Kind of Stuffing to keep out the firm Part of the Stalk, is indeed the moſt eſſential Article in the Conſtruction. Thus the Filaments and Antheræ of Flowers were once underſtood to be only excrementitious Parts; but a better Philoſophy ſhews they are the moſt eſſential of all: this early Miſtake about the Pith is ſuch another, and 'tis as lately ſet right.

From this Pith, or from that central Part in other Kinds which analogous to it though more firm, Fibres are ſent off Sideways, or obliquely upwards in regular Aſſortments, which penetrating the woody Subſtance and the Rind, form upon the Surface of the Plant a Bud, in which are the Rudiments of Leaves and Fruit, with the preceding Flowers. This is the Conſtruction of a Plant.

The Root is compoſed exactly as the Stem, of all theſe Parts, and from its medullary Part ſent Fibres with open Mouths for drawing Nouriſhment. This Nouriſhment is conveyed up in a watery Vehicle; and together makes what we call the Juice of the Plant. It is carried to all Parts in Veſſels, and lodged occaſionally in a Kind of Bladders, to be there wrought into various Kinds, to feed the Flowers, the Fruit, the Leaves, the Stem, and every other Part.

Within theſe Bladders are placed the Glands, from which it receives its Change; and as in our Bodies one Part of the ſame Nouriſhment is converted into Gall, and another into the pancreatic Juice; and ſo on; in the ſame Manner in Plants, the ſame Supply, paſſing the various Glands, aſſumes from them ſo many ſeparate Taſtes, Colours, and Qualities.

Every Plant of the ſame Kind performs all this in the ſame Manner, unleſs interrupted by Accidents, throughout an everlaſting Succeſſion; becauſe the Seed contains the Pith of the ſucceeding Root.

The whole Seed is formed from the Heart of the Plant; and that Point or ſmall Portion, which vegetates, and which we call the Heart of the Seed, is a Continuation of the Pith of the Plant. In every Part of that Pith are contained the Rudiments of Leaves and Flowers; for the Extremities of its Fibres, piercing the Wood and Bark every where, produce them. The ſame Rudiment is contained in this extreme Part; and when the Seed is committed to the Ground, it grows and ſends them out according to its Nature.

This is the Philoſophy of vegetable Propagation: that Syſtem was falſe as abſurd, which ſuppoſed every Seed at the Creation to have contained the Rudiments of all the Plants, and all their Seeds which ſhould riſe from it; nor were they much wiſer, who ſuppoſed an everlaſting Round of new Creations.

All is thus reſolved into a continued and ſucceſſive Growth of the one firſt Plant, and its Parts in the plain Courſe of Nature. We have taken this Opportunity to explain it, becauſe 'tis only from a true Knowledge of Vegetation, we can effect Changes in its Courſe and Order.

The extreme Fibres of the Roots are like the fabled Hydræ heads, they multiply on being cut off: they take in the Juices, they convey them to the Root, whence they are ſent up the Stalk and Branches to the Flowers and Fruit, in the Heart of whoſe Seeds the Fibres terminate.

This is the Courſe of Juices in Plants, and in this Courſe it is lodged at various Diſtances in thoſe Bladders, where the Glands are ſituated; and there it becomes altered according to the general Nature of the Plant, or of the Parts to which it is to be ſent.

That the Glands perform this, without regard to the Nature of the Juices themſelves, is evident: for Water alone will ſupport many Plants, and each will have its Flavour, Virtues, Colours, and all other Qualities: the ſame Piece of Ground ſhall give Nouriſhment to a Plant of Spurge, and another of Celandine; in one of which the Juice is white, and in the other yellow; and a third of any common Kind, with watery Juices, will be ſupply'd in the ſame Place, and by the ſame Soil with them.

Hence we ſee, that though there be ſomething in the Nature of the Soil with regard to this Change of Colour, there is more in the Veſſels of the Plant; and this gives the rational Method of attempting the Variegation of Leaves by Art. The Principles will thus riſe one from another in a Courſe of regular Enquiry; and the Operations of the Veſſels and Glands in Animals will beſt explain them.

As we have ſeen in Plants that the ſame Nouriſhment forms various Juices, we find in Animals that from the ſame Food, according to the diſtemper'd or healthy State of the Body, various Fluids are elaborated: yet there is ſomething in the Nature of the Food that may act in concurrence with the other Cauſes; and more in Medicine.

As we know what will remove a Diſorder, we alſo know in ſome degree what will bring it on, in the human Structure. The Green Sickneſs and the Jaundice diſcolour the Skin, and the white and yellow Stains on the Leaves of Plants, may be conſider'd as their Chloroſis and Jaundice. We know better how to remedy, than how to bring on theſe Diſeaſes, even if we could be inclined to do it in ourſelves; and it is ſo in Plants.

We know that by removing a variegated Tree into a rich Earth, we can make the Leaves all green: this proves that a bad Soil had great Share in changing them yellow; and hence we are led to the rational Practice.

CHAP. III.

Of the natural Variegation of LEAVES.

WE ſee in the wild State the Leaves of many Plants ſtain'd in the ſame Manner that they are in Gardens; and 'twas this natural Accident that firſt brought them thither. Thoſe who have written on the Subject, have too raſhly drawn general Concluſions from a few Inſtances.

It is the general Doctrine, and it is countenanced by Mr. RAY,* that variegated Shrubs may be propagated by Cuttings, or Layers, but not by Seeds; for that the new Plants raiſed from Parts of the old, retain the Variegation; but thoſe from Seed riſe plain.

This, however, is not true. I have two Years ſince raiſed variegated ſtinging Nettles from the Seeds of a variegated wild Plant; and have found that the ſtain'd Dulcamara, tho' no Plant grows ſo freely from Cuttings, preſerves its Variegation better from Seed. In theſe Caſes a proper Soil is eſſential; and other Articles, which we ſhall lay down when we come to the Practice.

The Gardeners † have alſo found this, for they affirm, that the variegated Sycamore riſes variegated from Seed; to raiſe it this Way a proper Soil is an eſſential Article; but its being practicable with that Aſſiſtance, ſhews that the Diſtemperature is very univerſal: for it muſt have infected even the Pith of the Stem, and thence ſpread itſelf to the Nucleus of the Seed, in a Condition to have diſorder'd the minute Glands in that wonderful Organiſation.

Seeds of plain Plants will ſometimes alſo in the ſame Kinds of Soil, and with the ſame Management, produce ſtriped ones. This is the Gardener's great Source of Hope: this he is to endeavour to make conſtant, and univerſal; and in that Courſe to follow ſtrictly what he ſees influence the Plants in Nature.

The laſt Year I traced with Care the ſeveral Accidents from which the ſtaining might ſeem to have riſen in two Plants, a Dulcamara, and a Nettle.

The Dulcamara had riſen from Seeds of a Plant of the common Kind, near *Denham*, upon ſome Rubbiſh of an old Wall, thrown on the Bank of the River.

The Water had been higher than ordinary when the Seed ſtruck; and afterwards had fallen conſiderably below the Place; there was not a ſtain upon the Original, or Parent Plant, but this had many of the Leaves ſpotted with a faint yellow.

The Nettle grew, and I think ſtill grows near *Highgate*, upon the dry Bank of a Ditch, by the Road; which, on Examination, I found compoſed of gravelly Earth, and Lime Rubbiſh from an old Wall. The lower Leaves were ſtain'd; and a few of the upper: the Colour a ſtrong yellow.

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* *Hiſtoria Plantarum*, Vol. I. p. 41.

† *Miller*, who, I ſuppoſe, has try'd it.

In both theſe Caſes the Remains of Mortar, that is, a Mixture wherein Lime was a principal Ingredient, was in the Cauſe; and from the two parallel Caſes, there is ground to ſuppoſe it had a great Share in producing the Effect.

The Dulcamara was a weak Plant, but the Leaves, except in Colour, unalter'd; the Nettle grew ſtrongly enough, but the Leaves were longer than uſual, and narrower.

It appears from this, that the ſame Cauſe which ſtain'd the Leaves, alſo affected the general Growth of the Plants, weakening the one, and altering the Leaves of the other.

This Nettle, in earlier Times of Botany, would have been called a new Species. The Footſtalks of the Leaves in the Nettle were alſo ſtreaked with yellow, but not thoſe of the Dulcamara.

This Accident, however, is not particular, for in ſome variegated Jaſmines the young Shoots are ſtain'd; and in ſome Fruit Trees even the Rind of the Fruit.

In the Marſhes not far from *Thorndon*, the Seat of the Lord PETRE, we obſerved ſome Plants of the Meadow ſweet near the Ditches of Salt Water; and in theſe the Leaves were often irregularly blotch'd, and ſtain'd with yellow.

From theſe Obſervations it appears probable, that beſide want of Water, and a rich Soil, which were deficient in both the Inſtances, the two greateſt known Efficients for the ſtriping and variegating the Leaves of Plants, are Lime and Sea Salt. There may be others: but theſe are hence known with Certainty; and this Effect of them is correſpondent with the general Opinion and Experience of thoſe who have examin'd into the Subject.

Mr. RAY determines, that the blotching and ſtriping of Leaves, is the Effect of a diſtemper'd Condition of the Plant, and he mentions Lime as the Cauſe; and the Experiments of thoſe who have try'd Lime Water and Brine ſeparately on growing Plants, ſhew that they take a like Effect.

It is not to be ſuppoſed, that the Variegations of Leaves can, in a regular Manner, be brought on by ſimple Watering, with a medicated Liquor; but the Effect of theſe has been turning the Leaves altogether yellow, and afterwards deſtroying the Plants: both Lime and Salt are good Manures, but this is no Objection to the preſent Opinion.

For that Purpoſe they are to be mix'd in very ſmall Quantities with the Earth: but when they form the greater Part of the Nouriſhment, they make the Plant fade; and a Change of green into yellow is the firſt Operation.

The Gardener has here the Principles of the Variegation of Leaves, and the ſeveral Cauſes: he ſees what Plants are, how conſtructed, and what thoſe Ingredients in a Soil are, that tend to alter the Colour of the Leaves. From this the Practice may reaſonably be attempted; and on theſe Principles alone it can: for the Search muſt be ſought in the Nature of Vegetables, and the Laws of Vegetation; not in the *Newtonian* Doctrine of Light and Colours.

CHAP. IV.

The Method of Practice.

LET the Gardener recapitulate in his Memory the Principles we have juſt deduced from Obſervation, and he will find, that if there be not a Certainty, there is at leaſt a fair Proſpect of bringing on the Variegation of Plants at his Pleaſure; and will learn in what manner to attempt it.

He will remember that the Colouring, whether in Blotches or Streaks in the Body of the Leaf, or in an Edge round the Circumference, is the Effect of a diſeaſed State of the Plant: that the Glands are the diſtemper'd Part; and that Lime and Salt are two Ingredients known to aſſiſt in bringing on this Change.

He ſees that the Seeds of Plants contain in their Heart the Rudiments of the Glands, for the Plant that is to grow from them; and that if the diſorder'd State of theſe Glands can be brought on in the lower Part of the Plant, the Conſequence muſt be the continuing it by proper Management throughout; for the Leaves and Branches all are produced from the extream Fibres of the Pith.

Therefore far from depending upon Layers, Cuttings, or Budding, though all theſe Ways may take Effect, the true Method is to begin with the Seed.

The Means will be a proper Compoſt for the Plants; a Liquor for ſteeping the Seed before ſowing; and a Water impregnated with the ſame Ingredients, for nouriſhing it in the Growth; which muſt, by an artful Method, be convey'd immediately to ſome part of the glandular Structure, not altogether ſent in by the common Courſe of the Fibres from the Root.

The Compoſt muſt be barren in its Nature, and impregnated with theſe Ingredients: let not the Gardener be afraid of making it too poor, for provided the Seeds will grow in it, the leſs rich the better.

Let him take three Buſhels of Mould from a ſandy Heath, and mix with it one Buſhel of the Rubbiſh of an old Wall, and half a Pound of common Salt.

Let theſe be well blended together, and then make the Seed-bed in the following Manner:

Dig out the Mould a Spade and half deep, fill in the Remains of the Rubbiſh from which the other was ſifted, and upon this throw in the Compoſt: level the Surface, and ſow the impregnated Seeds.

For this Purpoſe make ſome Lime-water, by putting a Quarter of a Pound of Lime into three Pints of boiling Water; throw in half an Ounce of common Salt, and when the Water is clear, pour it off.

Put the Seeds into this in the Evening; and let them ſtand till the Evening following; then ſtrain the Liquor through a Hair Sieve, and take them out. Sprinkle ſome Powder of ſlaked Lime over them, and ſcatter them on the Surface of the Bed.

Whatever be the Plant, or Tree, let no regard be had to the uſual Time of ſowing; but let this be done about the third Week in *May*. Sift over the Seeds half a Quarter of an Inch of the ſame Compoſt, and leave them to Nature. If the Seaſon prove very dry, once in three Days ſprinkle over the Bed a little of the following Water:

Boil two Gallons of Water, and put into it five Ounces of Lime, and a Quarter of an Ounce of common Salt: let it be cold, then pour it off, and mix two-thirds of common Water, and one-third of this.

When the Plants appear, repeat theſe Waterings a little at a Time conſtantly every Evening. Thus bring them to their Growth.

When they are three Parts grown, lay bare the principal Roots of two or three of them, and cut them half through, taking off a conſiderable Piece lengthwiſe to this Depth; this will ſhew the Pith of the Root.

Sift over this ſome freſh Lime Rubbiſh, without any Mixture; and then water them with the ſame Water. Thus proceed throughout the Summer.

The Plants thus raiſed, will naturally be weak, but they muſt be checked yet more in their Growth by frequent Tranſplantings, though it be only into other Parts of the ſame Bed, or tho' they be ſet in the ſame Places again. This anſwers the Purpoſe, for the Deſign is only to looſen the Fibres from the Mould, and thereby check the Vegetation.

The Gardener underſtands that by this Means all that is known of the Nature of Variegation, will be purſued regularly. The Seeds will be impregnated with thoſe Particles which are found to produce the Diſtemperature in the Glands of the Plant, which brings on the Yellowneſs; and afterwards every Particle of Nouriſhment it receives, will be impregnated in the ſame manner.

Finally, the very Pith of the Root will be laid immediately open to the ſame Ingredients; and the Plant at the ſame Time having a poor Soil, and frequent Removals, will not by its Luxuriance prevent the Succeſs.

In this Manner I have raiſed the ſtriped Nettle from the Seeds of the ſtriped Kind: if no more than this could be effected, it would be very well worth the Pains: for the Gardener would be very glad to raiſe ſtriped Hollies from the Berries of the ſtriped Kind; but probably by repeated Trials much more may be obtain'd.

If the Plants ſhould be all plain the firſt Seaſon, let him not for that Reaſon deſtroy them; for they will ſometimes be colour'd the ſecond, or even the third Year, though not before.

EDEN:

E D E N:

A

COMPLEAT BODY of GARDENING.

NUMBER LIX.

For the End of *OCTOBER*.

SECTION I.

FLORA, or the PLEASURE GARDEN.

CHAP. I.

Curious Plants and Flowers now in their Perfection.

1. SINGLE HESPERIS.

Octob.

Pl. 59. Fig. 1.

THE Garden does not afford a ſweeter Flower than this; though the whole Plant has much the Aſpect of a pretty Weed.

We diſtinguiſh it by the Name ſingle, becauſe there is a double Species, though not known by the ſame Name: in that State the Plant is called *Rocket*; a very ill-choſen and improper Term.

Rocket is the Name of another Plant once cultivated in Kitchen Gardens, as a Sallad Herb, though little known at preſent; and he would be ſtrangely miſled, who from that Confuſion of Names ſhould ſuppoſe the double *Rocket* the Produce of that Plant. It is this Plant raiſed to Doubleneſs by Culture, and ſhould be called double *Heſperis*.

In this ſingle State the Plant has been deſcribed by all the botanical Writers. They call it *Heſperis vulgaris*, and *Heſperis hortenſis*, the common and the Garden Heſperis. DODONÆUS *Viola matronalis*; and others thence, *Heſperis matronalis*. From his Name, *Viola matronalis*, came the old *Engliſh* Term, *Dames Violet*, applyed to this Plant. J. BAUHINE calls it, *Heſperis flore purpureo albo & vario*: purple, white, and ſtriped flower'd *Heſperis*; and ſome, *Eruca alba & purpurea*: the white and purple Rocket.

LINNÆUS retains the generical Name, *Heſperis*, and adds as the Diſtinction of this Species, *Caule ſimplici erecto, foliis ovato-lanceolatis, denticulatis, petalis mucrone emarginatis*: Upright, ſimple ſtalk'd Heſperis, with oval-lanceolate Leaves, notched at the Edges; and with the Petals of the Flower nipped in with a Point. This is a long but a very expreſſive Name; and neceſſary on Account of the many other Species.

Octob.

The Root is long, ſlender, and hung with many Fibres.

The Stalk is round, upright, lightly hairy, of a pale green, and a Yard high.

The Leaves are large and handſome: they are oblong, of a Figure between the oval and the lanceolate, and of a freſh green. They ſtand alternately on the Stalk, and are ſharp pointed, and deeply notched at the Edges.

The Flowers are numerous, and they ſtand every where about the Tops of the Stalks, and of thoſe Branches which riſe from the Boſoms of the upper Leaves. They are large but ſimple in their Structure. Their Colour is naturally of a pale red, but they are ſometimes of a deep crimſon; ſometimes white, and in other Plants not inelegantly ſpotted. The Scent is in the higheſt Degree fragrant, principally toward Evening, whence the *Greeks* named the Plant; for *Heſperis* has that Signification.

Each Flower is placed in a Cup formed of four little lanceolate Leaves, which converge toward their Tops, and open a little at the bottom; and two of them, which ſtand oppoſite, are prominent near the Baſe.

The Flower is compoſed of four oblong Petals with narrow Baſes, and in the Centre ſtand ſix Filaments: four of theſe are longer than the other two; and they are crowned with narrow upright Buttons turned back at the Ends: at the Baſe of each of the ſhort Filaments there is a Gland, which ſtands between the Filament and the Rudiment of the Fruit, and ſurrounds that Rudiment.

There is no Style; this Rudiment, which is oblong and ſquared, is crowned with a Stigma or Head of an oblong Shape, placed inward and upright, ſplit at the Baſe, and cloſe at the Top.

The Seed-veſſel is long, ſomewhat flatted, ſtriated, and formed of two Valves; it contains two Cells, and in each many compreſſed oval Seeds.

The Claſs of the Plant is found in the Diſproportion of the Filaments, four being longer than the reſt. It is that of the *Tetradynamia*, thence named; and the Fruit ſhews it one of the *Siliquoſæ* or podded Kinds.

Culture of the ſingle and double HESPERIS.

The *Heſperis* in this ſimple State is Native of all the warmer Parts of *Europe*; it has been ſuppoſed a wild *Engliſh* Plant, but probably when it has been found out of Gardens, the Seeds have been by ſome Accident ſcattered thence. Its Culture in this State is extreamly eaſy.

The Compoſt ſhould be of a Mixture of Paſture Mould and River Mud: it will grow in the common Borders, and flower very well; but the Root will not ſo continue good.

In ſuch a Compoſt, the Seeds, ripened the preceding Seaſon, are to be ſown in the laſt Week of *March*. The Plants muſt be ſuffered to flower where they riſe, for tranſplanting always hurt them; and all the Care they require, is to be thinned to two Foot Diſtance, and afterwards kept weeded and watered.

Every Autumn the Roots ſhould be taken up, reduced to a due Size, and planted again in freſh Compoſt. The parted Roots will increaſe it farther, but the propagating by Seeds is ſufficiently eaſy, and is better.

This is all the Care required for the ſingle Kind; and from the Seeds of this is to be raiſed the double. For this Purpoſe a large Seed Bed muſt be dug up in the Nurſery; and the Seeds ſaved with Care from a flouriſhing Plant, muſt be ſcattered over it.

The young Plants muſt be thinned; and, after they have ſome Strength, removed to another Bed, where they muſt be ſet at ſix Inches Diſtance.

In this Bed they muſt flower. The inferior Kinds muſt be pulled up; and thoſe which promiſe beſt muſt be planted out in Autumn in the Garden; but they muſt have ſuch a Compoſt as we have directed, for they will be ſpoiled by the common Earth of the Borders.

They will flower the next Year in their full Perfection; and there will be ſome with Flowers approaching to Doubleneſs.

Theſe muſt be marked for Seed. This muſt be ſaved with Care, and ſown as the former.

From this will probably riſe ſome perfect double Plants; if not the Proceſs muſt be repeated; ſowing the Seeds of the fineſt of theſe with the ſame Cautions.

Every Time, the Plants will be improved: no Part of the Labour will therefore be loſt; and in the End there will be produced the perfect and fine double-flower'd Plants.

Theſe will yield no Seed, therefore they muſt be propagated by parting the Roots. The Time for doing this is Autumn, they muſt be taken up every Year at that Seaſon, and planted in a Bed of new Compoſt; and the parted Pieces muſt be planted in a Nurſery Bed till they have Strength to flower perfectly, and are in a Condition to be removed into the Garden.

2. CRIMSON PERIWINKLE.

Pl. 59. Fig. 2. There is not in the World a Shrub of greater Beauty, than this we are about to deſcribe: it has the Advantage alſo of Novelty: it is unknown to the lateſt Writers, and but of a very few Years ſtanding in our Collections.

It has had till now no Name: the Characters of the Flower plainly refer it to the Genus *Vinca*, the Name LINNÆUS has affixed to the Plant *Periwinkle*, heretofore called *Pervinca*; as the Flowers of the other Kinds have no Colours except blue, white, and a faint red; the Addition of Crimſon will ſerve the Gardener for its common Diſtinction. For the botanical Student we may name it, *Vinca floribus corymboſis*: Cluſter flower'd Periwinkle; the Flowers of this Species naturally growing in a Cluſter at the Head of the Plant, or Tops of the Branches; whereas in the others they riſe from the Boſoms of the Leaves along the whole Stalk.

The Root is compoſed of numerous, large Fibres, connected to an oblong Head.

The Stem is woody, and covered with a brown Bark; the young Shoots are green: and the Plant in its moſt agreeable Form is a ſlight Shrub of about a Yard high.

The Leaves are placed in Pairs, and are very beautiful; they are oblong, conſiderably broad, undivided at the Edges, and of a firm Subſtance:

Octob. their Colour is a deep green; their Surface gloſſy, and their Veins whitiſh.

The Flowers crown all the Branches in great Tufts at their Extremities: they are large as well as numerous, and in the higheſt Degree elegant; they ſtand crowding upon one another, wide expanded, and are of a delicate crimſon: and on the Back-ſide of a pearly white.

Each has a Cup formed of one Piece, divided into five Segments.

The Body of the Flower is formed of one Petal, tubular at the Baſe, and fully expanded at the Verge.

The tubular Part is longer than the Cup, cylindrick toward the Bottom, broader upwards, and marked with five Lines: it has alſo a pentangular Mouth.

The expanded Part is formed of five vaſt Segments; they are broad, obtuſe, and ſo deeply cut down, that they reſemble ſo many Petals; but they are united with the Top of the Tube.

The Filaments are five; they are very ſhort, and are bent backward and forward; and they are crowned with upright, obtuſe, membranaceous Buttons.

There are two Rudiments, with a roundiſh Gland affixed to each; and to theſe there is one common Style, ſhort and cylindric. This has two Heads: the lower rounded and flat, the upper hollow.

The Seed-veſſel is a double Pod; or in other Words, there follow every Flower two long Pods formed each of a ſingle Valve, and opening longitudinally: the Seeds are numerous, oblong, and furrowed. Octob.

The Conſtruction of theſe Parts is very ſingular, but five Filaments and a ſingle Style refer the Plant plainly to its Claſs and Place in the *Linnæan* Syſtem, the *Pentandria Monogynia*, the fifth Claſs, and its firſt Section.

Culture of this PERIWINKLE.

It is a Native of *Madagaſcar*, and with us requires the Heat of a Stove to keep it in Perfection.

The Miſſionaries of *France* in that Iſland ſent over the Seeds to the King's Garden, where it firſt flower'd in *Europe*. This is about three Years ago; and two or thereabouts we have known it in *England*.

The Elegance of its Flower ſoon made its Way hither; and Mr. HAMILTON, a Gentleman diſtinguiſhed eminently in the Knowledge of Plants, firſt raiſed it here: at preſent it is in two or three other of our curious People's Hands, but I have ſeen it no where ſo perfect as at the Nurſery Garden of Mr. LEE and KENNEDY, near *Hammerſmith*.

It requires a light rich Mould, and may be raiſed from Seed or Cuttings.

The Seed ſhould be obtained from the Place where it is Native, for the *Periwinkles* are Plants which do not ripen it favourably. The Cuttings are to be managed as we have directed for the other tender Kinds; but a great deal of Care muſt be taken in the potting of them to preſerve the Mould about their Roots.

3. JACOBÆAN LOTUS.

Pl. 59. Fig. 3. The extream Singularity of this Plant never fails to attract the Attention at a diſtant View; and on a nearer Obſervation, there is a Peculiarity alſo and Beauty in the Flower, which ſtrongly recommend it.

The old Writers did not know the Plant. The *Dutch* firſt raiſed it in 1690, from Seeds ſent thither by Mynheer VANDERSTEL, Governor of their Settlement at the *Cape*, from the Iſland whence it is named; at which he touched on his Way thither.

COMMELINE, who firſt raiſed it in *Europe*, named it, *Lotus anguſtifolia flore luteo purpuraſcente Inſulæ ſancti Jacobi*; but this is not expreſſive of the Colour, which is rather blackiſh.

LINNÆUS calls it, *Lotus leguminibus ſubternatis, caule herbaceo foliolis linearibus:* upright, herbaceous Lotus with narrow Leaves, and ſubternate Pods.

The Root is long, divided, white, and hung with many Fibres.

The Stem is round, upright, very firm, and covered with a pale brown Bark.

The Branches are innumerable: they grow with great Irregularity: they are tough, long, ſlender, and of a pale green; and they ſend out a Multitude of young Shoots, which are round, firm, and of a whitiſh Colour. The whole Plant naturally forms a ſpreading Buſh of about two Foot and a half high.

The Leaves ſtand at Diſtances upon the Stalk. Five always grow together; three of theſe are ſupported on a ſlender Footſtalk, and the other two grow to the main Stem. They are long, narrow, ſharp-pointed, and divided at the Edges; and are nearly all the Way of a Breadth.

This is what LINNÆUS expreſſes by the Term Linear. Their Colour is a pale greyiſh green; and they are of a firm Subſtance. In the Daytime they ſtand horizontally; but in the Night, the Footſtalk, which ſupports the three, riſes upward; and thoſe Leaves alſo riſe upward, and turn inward, embracing the lower Part of the young Shoot, which riſes from their Boſom.

This Change comes on at Evening, and continues through the Night. It is what

Linnæus has named, the Sleep of Plants, and will be explained at large in a ſeparate Article at the End of this Number.

The Flowers cover the whole Head of the Plant; they are ſmall, but very conſpicuous; they are collected in little Heads, uſually four in each, and theſe are placed on long naked Footſtalks; they are of the papilionaceous Form, and their Colour ſeen at a Diſtance is a dark brown, nearly black.

When examined nearer, there is ſeen in the Vexillum, which ſtands looſe and ſingle, a Tinge of yellowiſh; and there is between the Points of the Alæ, a ſmall Spot of the brighteſt gold yellow. This is the more conſpicuous from the deep Colour of the reſt of the Flower; and there is a Singularity in it very pleaſing.

The Student examining the Flower, will find it truly papilionaceous. Its Cup is hollow, formed of one Piece, a little ſwoln at the Baſe, and divided at the Verge into five Segments: theſe are narrow, and ſharp pointed; and two of them form a kind of upper, and the other three a lower Lip.

The Vexillum of the Flower is oval, turned back, and hollow'd at the Baſe.

The Alæ are oblong and broad, and they cloſe in the upper Part: they are ſomething ſhorter than the Vexillum.

The Carina is ſwelled at the Bottom, pointed at the Top, and turned upward: it is of a yellower brown than the reſt of the Flower, and its Point is of a bright yellow. 'Tis this, which ſhewing itſelf between the Tops of the two Alæ, forms that golden Spot in the Flower.

The Filaments are ten: nine are cluſter'd into one Body, and the other is ſeparate; this ſhews the Plant to be one of the *Diadelphia decandria*.

Culture of this Lotus.

It is a Green-houſe Plant, and is beſt raiſed from Seed.

This ſhould be ſown in Spring, upon a Hot-bed, among other Kinds. When the Plants are three Inches high, they ſhould be tranſplanted into Pots of ſome light rich Compoſt, and theſe muſt be ſet in a Hot-bed again to promote their taking root.

After this the Plants muſt be inured to the Air, and kept out all Summer in a warm Place; at Autumn they muſt be houſed with the others.

They may be propagated by Cuttings, but the Way from Seed raiſes the fineſt Plants.

4. ACUTABULATED HOREHOUND.

Pl. 59. Fig. 4. This is a very ſingular Plant, diſtinguiſhable by its white Colour, and wide Cups, out of which the Flowers appear; ſmall and inconſiderable. The Writers on Plants have long known it: they have called it from the Leaves which reſemble thoſe of the *Cretic Dittany*, *Pſeudodictamnus*; and from the Cups, which when full grown, have ſomething the Aſpect of thoſe of the *Molucca*, *acetabulatum*, and *Moluccæ ſimile*.

C. Bauhine calls it, *Pſeudodictamnus acetabulis moluccæ*. Linnæus, *Marrubium colycum limbis tubo longioribus membranaceis angulis majoribus rotundatis:* horehound, with the Verge of the Cups exceeding the tubular Part in Length, and their principal Angle rounded.

The Root is compoſed of many Fibres connected to a ſmall Head.

The Stalks are numerous, rigid, hard, about a Foot high, and tolerably upright: their natural and proper Colour is purple, but they are covered with a white downy Matter, and often they are green or pale from ill Management.

The Leaves ſtand in Pairs, and are ſmall, roundiſh, and irregularly terminated at the Edges: they are of a whitiſh Colour, thick covered with a woolly Matter.

The Flowers ſurround the Stalks in thick Cluſters at all the Joints; but the Cups in which they are placed are much more conſpicuous than they: theſe are tubular at the Baſe, formed of one Piece, wide expanded at the Rim, and when full grown, very large: they are of a paler Colour than the reſt of the Plant, and they have a great many Indentings at the Edge, the principal Angles of which are rounded.

The Flowers are of a pale Crimſon, with ſome Mixture of white.

Each Flower is formed of one Petal, and is of the labiated Kind.

The opening is long and tubular. The upper Lip is undivided, upright, and hollowed. The lower Lip is broader; it is turned back, and lightly divided into three Segments: the middle one of which is broader than the other two, and is nip'd at the End.

The Filaments are four; they are placed under Cover of the upper Lip, and two are longer than the others.

The Seeds are four, and they ſtand naked in the Cup.

The two longer Filaments ſhew the Plant one of the *Didynamia*, and the naked Seeds place it among the *Gymnoſpermia*.

Culture of this Horehound.

The Plant is a Native of the *Archipelago* Iſlands, and lives naturally in the Cracks of Rocks, where there is a little good Mould. This we ſhould imitate. The beſt Method is by burying ſome Chippings

Pl. 39.

1 Single Hesperis

2 Crimson Perinwinkle

3 Jacobaan Lotus

4 Acetabulated Hoarhound

5 Double White Lilly

6 Ferrugineous Foxglove

I.Hill delin et Sculp.

Octob. Chippings of Stone among a Parcel of ſome light and not too rich Compoſt.

In this Bed they may be propagated either by Seed, by parting the Roots, or by Cuttings. The Method of doing each we need not repeat, as there is nothing particular required in regard to this Plant; only the Time.

The Seeds ſhould be ſown in Autumn; the Roots are beſt parted early in Spring; and the Cuttings ſhould be planted in *June*. Either way the Plant ſhould be raiſed originally on the Bed, where it is to remain, for it ſucceeds better ſo, than when tranſplanted. Octob.

The Stone in the Border is an eſſential Thing to its Proſperity, and the Roots never run ſo well among this, as when they are originally produced there.

5. DOUBLE WHITE LILLY.

Pl. 59. Fig. 5. If Singularity did not often ſtand in the Place of Excellence with the Gardener, we ſhould not recommend this Plant to his Attention. In all other Kinds the doubling of the Flowers is an Advantage, but in this it is rather an Imperfection.

The Petals are continued in an irregular Succeſſion one above another, and there is more the Appearance of its having been occaſioned by the Puncture of an Inſect vitiating the Juices of the Plant, and producing monſtrous Forms, as in the Burr of the Briar, than of its having ariſen from Culture.

Under theſe Diſadvantages, however, there is Variety in it; and tho' we would by no means adviſe that it ſhould take the Place of the common white Lilly in Gardens, yet we do not think it improper to be intermixed with it.

The whole Plant, except in the Flower, reſembles the common white Lilly.

The Root is ſcaly, and forms a large Bulb.

The Stalk is a Yard high.

The Leaves are long, moderately broad, and waved at their Edges; and the Flowers crown the Diviſions of the Stalk at the Top; and the Shoots which riſe from the Boſoms of the upper Leaves. They are long and irregular, white as in the common Lilly, but compoſed of more numerous Petals; and as they are leſs beautiful, they are alſo leſs fragrant.

Culture of this LILLY.

We have obſerved that this is only a Variety of the common white Lilly; it is entitled therefore to no ſpecifick Name, or farther Diſtinction. It has been raiſed in our Gardens, and no Soil ſuits it better than the common Mould of the Borders. The original Production of it muſt be from Seed; but after it is once obtained, the Propagation and Increaſe will be eaſy from Off-ſets of the Root, taken away at the Time of removing it after flowering.

We have obſerved, that the beſt Chance for raiſing double Flowers from the Seed of the ſingle, is by allowing a large Seed-bed, and ſowing a ſufficient Quantity.

This muſt be repeated a ſecond and a third Time, if it do not ſucceed the firſt, and the Labour is never loſt: for if the double Flower is not produced, there will be always remarkably fine Plants of the common Kind from ſuch ſowing; and the ſtriped Lilly we have named before, will riſe among them.

When by repeated Sowings the expected Kind is produced, it ſhould be nurſed with Care for the Production of Off-ſets; it ſhould be allowed a good Soil, a great deal of Room, and frequent Waterings; and it ſhould not be ſuffered to exhauſt itſelf in flowering.

At the End of this Time it muſt be taken up; and the Off-ſets being removed, muſt be planted at ten Inches Diſtance, in a Nurſery-bed, to gain Strength; and when they are fit for flowering, they are to be taken into the Garden.

6. FERRUGINEOUS FOXGLOVE.

Pl. 59. Fig. 6. There requires ſome Taſte to enter into the Merit of this Plant; for Colour is greatly againſt it: but the upright Robuſtneſs of the Stem, the Height of the Plant, its cluſter'd Leaves, and above all, its long Spike of thick-ſet Flowers, truly demand Attention.

The Flowers have alſo a Colour peculiar to themſelves, that of a ruſty Iron, and this is another Character of Singularity in their Favour.

All the Writers on Botany have deſcribed the Plant, and all with particular Regard, though few of them with Praiſe. C. BAUHINE calls it, *Digitalis anguſtifolia, flore ferrugine:* narrow-leav'd Foxglove, with an Iron colour'd Flower. VAN ROYEN, *Digitalis foliis calycinis ovatis, obtuſis:* Foxglove, with the Leaves of the Cup oval and obtuſe: and LINNÆUS adds to that Diſtinction, *Corollæ labio inferiore, longitudine, floris:* Foxglove, with the Leaves of the Cup oval, and obtuſe, and with the lower Lip of the

Length of the Flower: this is a diſtinctive and perfectly peculiar Character.

The Root is a thick Head, with innumerable long Fibres.

The Stalk is five Foot high, rounded, but lightly ridged, and of a duſky green.

The Leaves are long, narrow, ſomewhat hollow'd, and extreamly numerous: they are placed very cloſe, but irregularly on the Stalks; and their Colour is a dull green.

The Flowers are placed as thick as they can ſtand, in a Spike of near a Yard in Length, and they gape open. Their Colour is that of ruſty Iron, a yellowiſh or rediſh brown, and they are of conſiderable Duration.

The Cup is cut deep into five Segments, the upper one of which is narrower than the others.

The Flower itſelf is formed of one Petal; it is tubular in the lower Part, and divided at the Verge into two Lips.

The Filaments are four; they are inſerted into the Baſe of the Flower, and two are longer than the others; they are crown'd with Buttons divided into two Parts, and pointed at one End.

The Style is ſingle, and the Seeds are contained in an oval Capſule. The Claſs and Place of the Plant are eaſily known from this. The two longer Filaments place it among the *Didynamia*, and the Subdiviſion of thoſe Plants is formed upon the Condition of the Seeds, which in this are covered; it is therefore referred to the *Angioſpermia*.

Culture of this FOXGLOVE.

It is a Native of the warmer Parts of *Europe*, and the Eaſt; but lives very well throughout the Year in our Gardens. We ſhould, however, have ſo much Regard to its native Climate, as to chuſe a warm Spot of the Nurſery for its Propagation; and a ſheltered Part of the Garden for it to flower.

Let the Seeds be ſaved from a robuſt and large Plant; and when they have been carefully dry'd and harden'd upon a paper'd Shelf, let them be put up in Bags, in ſmall Quantities, and hung up for the Winter.

In the *March* following let a Bed be dug up in a warm Part of the Nurſery, and the Seeds ſcattered on with an even hand, not too thick.

The common Mould of the Seminary will anſwer for this Purpoſe, for they will rot in too rich a Soil.

When the Plants come up let them be thin'd, and the Bed carefully weeded and refreſhed at Times with a little Water.

When the Plants are four Inches high, let a new Bed be dug up for them in a near Part of the Nurſery; and in the Evening of a cloudy Day, let them be taken up and planted in this at ſeven Inches Diſtance.

Let the Bed be divided by Lines at this Diſtance, and the young Plants be taken up with a good Quantity of their original Mould.

Let them be planted in the new Bed with Care, and particular Regard had to the preſerveing the upright Straitneſs of the Stalk; becauſe on that a great Part of the Beauty of the Plant will depend.

Let them be watered in their new Bed as ſoon as planted, and ſhaded by a Reed-hedge or Mat till they have taken Root. After this let the Bed be conſtantly and carefully weeded, and the Plants kept in a State of free Growth by frequent but moderate Waterings.

In Autumn let them be removed into the Places where they are to flower, opening large Holes for them; the beſt Compoſt is a Mixture of equal Parts, of Garden Mould, and dry Paſture Earth.

Let them be ſet upright in this, with a good Ball of their own Earth, and tied up to ſhort firm Stakes to ſecure their upright Growth.

They will flower very boldly, and the fineſt of them ſhould be permitted to ripen Seeds. It is with theſe, as many other of the hardy fibroſe rooted *European* Kinds, they may be made either biennial or perennial, at the Pleaſure of the Gardener.

If they be ſuffered to ſtand and ripen the vaſt Quantity of Seed which naturally follows that great Number of Flowers, the Root becomes quite exhauſted, and the Plant dies; but if the Stalk be cut down before the Flowers fade, the Root will continue ſtrong for ſeveral Years.

Therefore let the Gardener ſave ſome Seed from one Plant every Year, and let that be the talleſt and ſtouteſt of all; and let him cut down the others as ſoon as they are paſt their Beauty. From the Seeds thus ſaved from the beſt Plants, and ſowed every Year, he will have an improved Kind; and from the others, whoſe Stalks be cut down, a large Increaſe by parted Roots.

SECT. II.

Of the Sleep of PLANTS.

THE nightly Change of Poſture in the Leaves of the Lotus, deſcribed in this Number, is one of the many Inſtances of what is called the Sleep of Plants. This I have explained in a ſeparate Treatiſe * at large, on the following Principles:

That the Leaves of certain Plants aſſume at Night a Diſpoſition different from that of the Day, has been long known: ACOSTA records it of the Tamarind; ALPINUS of that Tree, and of the Abrus; *Glycine foliis pinnatis conjugatis, pinnis ovatis oblongis, obtuſis*; and from theſe, all who followed: ALPINUS extends the Obſervation to ſeveral other of the *Egyptian* Kinds; and LINNÆUS has carried it much farther among the *European.*

ALPINUS conceived it a Proviſion of Nature for the Defence of the nobler Parts, the Flowers and Fruit: and he particularly obſerves of the Tamarind, that its Leaves embrace the tender Pods.

This Opinion RAY diſclaimed, though he allowed the Fact: but LINNÆUS has adopted it. I think it will appear, upon a ſtrict Examination, that the Change itſelf is a natural Effect, reſulting from the common Properties of Bodies, and their Operations upon one another; and that the Author of Nature has in many Inſtances, made it effectual to that great Purpoſe; though in others it happens equally, without anſwering any ſuch End.

We ſee how far the Obſervations of earlier Writers carried the Diſcovery; how much farther LINNÆUS: and I perſuade myſelf the Reader will accompany me with Satisfaction in a more deep Reſearch.

LINNÆUS has deſerved greatly of the World in this and other Inſtances, by tracing Nature's Steps, and recording thoſe Obſervations. To relate theſe Facts is to give the Hiſtory of Nature: but there is ſomething more within our Reach. The human Mind, daring, tho' weak, and inquiſitive under all its Limitations, ſeeks (and ſometimes not unhappily) their Cauſes.

There have not been wanting from the Time when this Property in Vegetables was firſt regarded, ſome who have ſought its Origin; tho' all yet unſucceſsfully. Thoſe who ſuppoſed it the Effect of Heat and Cold, might for a long Time ſeem to have judged rightly; but when we find the ſame Thing happen with equal Regularity in Stoves, where there is no Change in the Temperature of the Air, we are convinced that Opinion cannot be juſt.

They were as far from Truth, who ſuppoſed the Health or Sickneſs of the Plant of any Conſequence in this Reſpect; nor can I affirm, that I have found Nature in all Inſtances confirm LINNÆUS's Obſervation, that it is more obvious in young Plants than old.

It will appear from the following Trials, that the ſleeping and ſenſitive Plants are naturally allied; that their Motions, tho' differently brought on, are dependent on the ſame Principle; that many of the Sleepers approach to the Quality of the Senſitives; and that all the Senſitives have theirs.

This will ſhew the Subjects are connected, and the following Experiments will prove, that, with this Connection, the Principle of their Motion is alſo found.

If we can cloſe the Abrus Leaves at Noon-day, and open them again at Pleaſure, the World will own, we know the Principle of their Change of Poſition.

If we can throw down, as well as cloſe the Leaves of the ſenſitive Plant, without a Touch, by removing the Power which keeps them erect, and expanded, it will be acknowledged the latent Principle of their Motion is alſo underſtood.

We always know the Cauſe of thoſe Effects we can ourſelves produce; and Experiments are the true Teſt of reaſoning.

We ſee a great Number of Plants cloſe their Leaves at Evening. The Fact is as obvious as it is ſtrange: but we know every Effect has its Cauſe; and we are to ſeek this, not by vague Conjecture; but in the eſtabliſhed Properties of Bodies, and their known Influence in different Caſes, upon one another.

The Structure of Plants we may eaſily know; and of no Part more perfectly than of the Leaves: for a good Microſcope ſhews their ſmalleſt Fibres.

Between the two Skins of the Leaf, which are Continuations of the outer Rind of the Stalk, there run innumerable Fibres of a larger Kind; with Cluſters of more minute ones, in various Forms among them.

The larger Veſſels are of a woody Subſtance, hollow, and ſmaller all the Way from the Baſe of the Leaf: they are collected together in a compact

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* *Sleep of Plants explained*, a Pamphlet lately publiſhed.

Manner in the Footſtalk; with delicate Cluſters at its Baſe: and they are originally ſent from the Pith within the Stem.

Theſe Fibres ſerve to ſupport the Leaf in its proper Poſition; and therefore whatever external or internal Cauſe affects them, will change that Poſition.

This is the Conſtruction of the Part to be influenced; the Queſtion remains, what it is that affects it; and to know that we are to examine whatever may have ſuch Power.

Leaves thus conſtructed are always ſurrounded by the Air; and they are occaſionally and variouſly influenced by Heat, Light, and Moiſture: the Air alſo itſelf being in a continual State of Variation, its Alterations are to be conſidered as poſſible ſubordinate Cauſes of Change.

Theſe Things, and theſe only, come within Contact of Plants, or within the Sphere of Influence. Bodies do not affect Bodies, but on Contact, or within that Sphere: therefore the Cauſe of the Change of Poſition in Leaves, is to be ſought among theſe Agents, and no other.

They are naturally complicated, and they act on moſt Occaſions together. We are therefore to obſerve, firſt, what Effects reſult from their mutual Combinations in a State of Nature: and having aſſigned in theſe Caſes the Effect to the proper and particular Cauſe, from this Power of that Agent, whichſoever it is, that acts thus in Concert with the reſt, we may deduce its Operations ſingly.

Pinnated Leaves, ſuch as are compoſed of numerous Lobes, or ſmaller Leaves placed on a common Foot-ſtalk, are moſt remarkable for their Change of Poſition: it will be therefore beſt to wave all other Conſiderations here; and obſerve ſolely the Condition of theſe.

The four Agents we have named are univerſal; but we ſhall find their Operation differs in various Climates. In theſe temperate Kingdoms, our native Plants which have pinnated Leaves, naturally hold the Lobes nearly horizontal, and ſhew but a moderate Senſibility in this Reſpect: in the hotter Regions, the uſual Poſition of the Lobes in theſe Plants is turning upwards, and they are extremely ſuſceptible of Change of Poſture; in *Ægypt* moſt of all: in the more Northern Nations, on the contrary, they ſcarce ever reach an horizontal Poſition, and they ſhew very little Change on any Occaſion.

As we ſee different Appearances in theſe Parts of Plants in hot, temperate, and cold Climates; Obſervations of a like Kind ſhew, they are not leſs variouſly affected in the ſame Kingdom in rainy and fair Seaſons. In thoſe Places where there are regular Periods of rainy Weather, the Change in the Face of the pinnated Plants is very great, and certain: thoſe which in the fair Months carry their Lobes in an obtuſe Angle upwards, conſtantly hang them obtuſely downward in the Time of the Rains.

Theſe are the Obſervations of curious Voyagers; and they have been confirmed by the immediate Notice of Botaniſts in thoſe Places. The firſt would ſeem at once to give the Effect to Heat; and the other to Moiſture: but farther Obſervation ſhews it is otherwiſe. LINNÆUS has juſtly obſerved, that the ſame Thing happens to Plants in the Stove, where there is no Alteration in Point of Heat; and I have found by careful Tryal, that Moiſture has in the ſame Reſpect no Effect. I have for this Purpoſe watered ſome Plants almoſt to Deſtruction, and left others of the ſame Kind dry; and no Alteration has been made by this: they all expand, or raiſe their Leaves in the Morning, and drop them in the Evening; at the ſame Hour and in the ſame Degree.

Two of the four natural Agents, Heat and Moiſture, are therefore excluded from any Share in this Effect: the Air is too univerſal, and its Changes too much depend on theſe to be admitted in the Reſearch. The Attention therefore falls on Light alone: and I have found by many Experiments, that the Change of Poſition in the Leaves of Plants at different Periods of the Day and Night, is owing to this Agent and no other. This is the Diſcovery I perſuade myſelf I have made; and I ſhall endeavour to ſhew, that it is founded on Reaſon, and ſupported by Experiments.

Nor is there any thing ſtrange in this Effect, when duly examined. By excluding the ſuppoſed Cauſes, we have diſcovered the real, for there remained no other: and in examining the Subject, on the Principles here laid down, we ſhall find not only that no other Power could produce the Effect; but that Light inevitably muſt.

Theſe are the Diſcoveries on which the everlaſting Seal of Truth is ſtamped; which Reaſon dictates; and which Experiments confirm.

We have propoſed to ſearch the latent Principle of this Change in the Qualities of Bodies, and their natural Operations upon one another.

We have ſhewn what is the Structure of Leaves in general: and it will now be proper to fix on ſome in particular: let us chuſe for this Purpoſe an *Ægyptian* Plant, ſince thoſe ſhew the Effect moſt of all; and among theſe none can be more proper than the *Abrus*, celebrated for it by the earlier Writers.

The Leaf of the *Abrus* conſiſts of thirteen Pairs of Lobes, fixed by very ſhort and extreamly ſlender Footſtalks to the middle Rib; and this to the main Stem of the Plant.

Examining its internal Structure by the Microſcope, we find a Number of delicate Fibres, riſing from the central Part of the main Stem, and continued in a Courſe obliquely upwards, through the intermediate Parts, and to the Outſide of the Rind. Here they ſwell; and run into ſeveral regular Cluſters, ſpreading downward and on each Side: and theſe form (under the continued Covering of the Stem) the Baſe of the common Footſtalk, or middle Rib of the Leaf.

From this Part they are carried in a ſmall compacted Bundle, ſtrait forward to the Extremity of the Rib; and there, as there is no odd Lobe to cloſe the Leaf, they terminate in a Point, covered by the common Integuments.

From each Side of this middle Rib riſe the Footſtalks of the ſeparate Lobes. Theſe are formed of a Multitude of delicate Veſſels, ranged cloſe together, and are confined by the Covering, which is the common Rind of the Plant continued to that Part.

At the Baſe of each Lobe there is another complex Cluſter of Fibres: from this Part they are protended forward, ſtrait to the End of the Lobe; and they ſend out only ſlight Branches into the ſeveral Parts of the Leaf

This is the particular Structure of the *Abrus* Leaf, as ſeen upon a careful Diſſection, and with a good Microſcope: it agrees with the general Conſtruction we have given before, as the common Courſe of Nature in theſe Parts; and it will regularly explain the Change of Poſture in the Lobes, under the different Influence of Light.

Light is ſubtile, active, and penetrating: by the Smallneſs of its conſtituent Parts, it is capable of entering Bodies; and by the Violence of its Motion, of producing great Effects and Changes in them. Theſe are not permanent, becauſe thoſe Rays which occaſion them are, in that Action, extinguiſhed, and loſt.

Bodies may act on Light without Contact; for the Rays will be reflected when they come extremely near; but Light can act on Bodies only by Contact; and in that Contact the Rays are loſt.

The Change produced in the Poſition of the Leaves of Plants by Light, is the Reſult of a Motion occaſioned by its Rays among their Fibres: to excite this Motion, the Light muſt touch thoſe Fibres; and where Light touches, it adheres, and becomes immediately extinguiſhed.

Theſe are the everlaſting and invariable Properties of Light: and, according to theſe, the Change we attribute to it, being once effected, muſt be continued as naturally and as neceſſarily as it began, ſo long as the Light continues; and no longer.

The raiſing of the Lobes in theſe Leaves will be owing to the Power of thoſe Rays which at any one Inſtant fall upon them: theſe become extinguiſhed; but others immediately ſucceed to them, ſo long as the Air in which the Plant ſtands, is enlightened. It ought therefore to be ſeen, that in full Light, the Lobes continue in their moſt raiſed Poſition; and that they droop from that in Proportion as the Light becomes leſs.

This which appears neceſſary from the Powers of Light, and the Conſtruction of Leaves, is true alſo in Fact.

We have ſeen that the Footſtalks of theſe Lobes, are Cluſters of Fibres protended from the Center of the Stem; that they are continued through the Lobes; and that they ſupport them in their Poſition, whatſoever it is.

The Effect of Light upon theſe Fibres is, the putting them into an inceſſant Vibration: this happens neceſſarily from the continual Impulſion and Extinction of the Corpuſcles, of which Light is compoſed, and the freſh Impulſion of others, upon the Extinction of the firſt.

It cannot be, but that a Cluſter of delicate Fibres, affected inceſſantly by theſe Concuſſions, muſt be put into a vibrating Motion; and this will be greater, as the Light is more, and weaker as it is leſs.

This Vibration is ſimple in the expanded Fibres; but it operates as variouſly as diſtinguiſhably on thoſe Cluſters of them, which are placed at the Baſes of the main Rib, and of the ſeveral Footſtalks of the Lobes.

It is on the Operation of Light upon theſe interwoven Cluſters of Fibres, that the Motion of the Leaves in gaining their different Poſition depends; and conſequently, the Motion itſelf is various, according to the Conſtruction of thoſe Cluſters.

The Effect of Light upon Bodies we ſee is to put their Parts into a vibrating Motion; the Conſtruction of pinnated Leaves is ſuch as naturally admits and propagates that Influence; and the Cluſters of Fibres are as a Kind of Joints on which their Lobes are capable, under the Influence of Light, of a certain limited Motion.

As the State of Water uninfluenced by Heat is Ice, the natural Poſition of the Lobes in theſe pinnated Leaves is drooping. This is their Poſture of Repoſe; but in this they were not intended by the Author of Nature to remain; for Vegetation is very imperfectly performed, while they are in it. The Effect of Light is this Vibration, and the Alteration of Poſition in thoſe Lobes. This is the Doctrine here advanced, and this is ſupported by the following Experiments.

I removed a Plant of the *Abrus* from a Stove, in the Evening of the ſeventh of *Auguſt*, and placed it in my Study, where it could have the Effect of moderate Day-light, without being expoſed to the immediate Action of the Sun. This might be conceived the moſt natural and equable Degree of Light; and therefore fitteſt for the firſt Experiments.

The Lobes of the Leaves were at Evening, when the Plant was brought in, fallen perpendicularly from the middle Rib, and cloſed together by their under Sides.

Thus they continued during the Night; in in a State of perfect Repoſe. Half an Hour after Day-break they began to ſeparate; and in a Quarter of an Hour after Sun-riſe ſtood horizontally; flat, and perfectly expanded. Long before Sun-ſet they began to droop again; and toward the Evening they were cloſed underneath, as at firſt.

Next Day the Plant was ſet in a Room,

where there was leſs Light. The Lobes were raiſed in the Morning; but not to a horizontal Situation: and they drooped earlier at Evening.

The third Day it was ſet in a South Window, open to the full Sun. Early in the Morning the Leaves had attained their horizontal Situation; by nine o'Clock they were raiſed conſiderably; and they continued in this State till toward Evening, when they by Degrees fell to the horizontal Situation; and from that drooped gradually to the uſual State of Reſt.

The fourth Day the Plant ſtood in the ſame Place, but the Sun did not appear. The Lobes obtained early their horizontal Situation, but did not riſe beyond it; and in the Evening they cloſed as uſually, below.

Theſe Experiments ſhew the Effects of various Degrees of Light; at the ſame Time, that they prove the whole Change to be occaſioned by Light only.

The Effect of moderate Light, that is, the Light of a bright Day out of the Sun-ſhine, is to raiſe the Lobes to an horizontal Poſition: leſs than this places them at an obtuſe Angle downward: more at an obtuſe Angle upwards.

The fifth Day the Plant was ſet in a leſs enlightened Room: and the Leaves had obtained by nine o'Clock their Poſition at an obtuſe Angle downward: it was then brought into the lighter Room, and they roſe to the horizontal Situation in a Quarter of an Hour. It was after this removed to the Window, where the Sun ſhone, and the Lobes were elevated as before: and being thence carried into the leſs light Room, they drooped again. All theſe Changes were produced between the Hours of nine and two; the Weather being the ſame, and only the Place of the Plant changed.

On the ſixth Day it remained in moderate Light; and kept its Leaves horizontal.

On the ſeventh I made the final Experiment.

It appeared to me that if Light were the ſole Cauſe of the Motion, and Change of Poſition in the Leaves, then denying the Plant the Benefit of Light at any Time, muſt bring on that Change: that it would not be difficult to darken the Place where the Plant ſtood, at any Time: and that the Conſequence of this muſt be, if the Principles already laid down were true, a bringing on of the Change at any Time of the Day. This Experiment appeared as a juſt Proof of the foregoing Reaſonings. If Darkneſs would at any Time throw down the Lobes, the Syſtem of that Motion before delivered muſt be true; if not, all the Reaſonings muſt be falſe.

The Aſſent of the World muſt alſo depend on this: Deductions of Reaſon may be diſputed, but it will be allowed certainly, that we underſtand the Cauſe of a Change which we can produce.

In the Evening of the ſixth Day I ſet the Plant in a Book-caſe, on which the Morning-Sun ſhines; and throwing open the Doors, left the whole to Nature. The ſucceeding Day was bright. The Lobes which had met in their drooping Poſition at Evening, and continued ſo during the Night: began to open early in the Morning, and by Nine o'Clock they had paſſed their horizontal Situation, and were elevated in the uſual Manner.

I then ſhut the Doors of the Bookcaſe: the Plant was by this left in Darkneſs; and on opening them an Hour afterwards, the full Change had happened; the Lobes were all drop'd, and it was in the ſame State that it would have ſhewn at Midnight.

On the opening of the Doors the Change began very ſoon: and in twenty Minutes the Lobes had obtained their elevated Situation. This Experiment I have ſince many Times repeated, and always with the ſame Succeſs.

It is in our Power therefore to bring on this State of Repoſe at Pleaſure; and by the Admiſſion or Excluſion of Light, to make the Plant at our own Time, put on all its Changes, from the drooping to the moſt elevated Poſition of the Lobes.

We know that in theſe Experiments, Light alone is the Cauſe: we are therefore certain, that what is called the Sleep of Plants, is the Effect of the Abſence of Light alone, and that their various intermediate States are owing to its different Degrees.

This being explained, a ſecond Diſcovery follows naturally. The Motion of the ſenſitive Plant, at the Cauſe of which no Philoſopher has hitherto ventured a Conjecture, is in a great meaſure owing to the ſame Principles: and the Explanation of it, which before the Effect of Light upon the Leaves of Plants was thus ſhewn, muſt have been enveloped in impenetrable Obſcurity, may now be regularly purſued.

The ſenſitive Plant, beſide its ſingular Quality of cloſing and dropping its Leaves upon the Touch, is ſubject to the ſame Changes with the Abrus, and thoſe other Kinds, we have named from the Effect of Light.

Plants which ſuffer this Change from the Effect of Light, may, though they do not univerſally, ſhew it alſo from Motion; and all Plants which are capable of it by Motion, ſuffer it alſo from the Abſence of Light.

Light gives their Leaves that Poſition, from which they are to be thrown by a Touch: and the Abſence of Light takes the ſame Effect with that Touch; though in a ſlower manner.

The ſenſitive Plant at Noon Day, has its Leaves raiſed and expanded. The Footſtalks make an acute Angle with the main Stem, and the two Leaves which grow on each of the firſt or lower ones, ſtand remote from one another. The Lobes which compoſe theſe, are about twelve Pair to each, and theſe alſo ſtand in an horizontal Direction.

Thus the young Plant appears in the middle Hours of Day. At the Approach of Evening, the Lobes begin to draw themſelves together upwards, as in the *Parkinſonia*; and the middle Rib of each approaches toward the other: at Night the Lobes are as entirely ſhut upwards, as thoſe of the Abrus downwards: the two Ribs are placed cloſe to each other, and the Footſtalk which ſupports them both, hangs down.

This is the State of Repoſe of the ſenſitive Plant: into this it falls every Night naturally; and into this it may, in the ſame Manner as the Abrus, be thrown at Noon Day in a darken'd Place.

As we have ſeen the Cauſe of this Change in the Abrus, to be Light, and have traced the Manner of its Operation; it is eaſy to follow it alſo in the ſenſitive Plant, through the ſame Courſe of Enquiry.

At the Baſe of the Footſtalk, where it joins the main Stem, there is a Cluſter of complex Fibres: theſe have riſen from the medullary Part, and pierced the woody Sides of the Stem.

From this complex Cluſter, the Fibres proceed in a ſtrait Line up the Footſtalk, till at the Head of that, where the two Leaves riſe, there is another ſuch Cluſter: thence the Fibres run ſtrait the Length of the main Ribs, and ſend out on each Side other Cluſters at the Baſe of every Lobe. From theſe the more minute Fibres run ſtrait through the Leaf, and ſend out lateral Shoots.

This the Microſcope diſcovers plainly, and this ſhews that not only the natural Motions of the ſenſitive Plant, are the ſame with thoſe of the Abrus and others; but that the Conſtruction alſo is the ſame in its Kind; though more complex.

In the Night the ſenſitive Plant is not capable of the common Motion on the Touch, for the Leaves are already in the Condition whereto they would be reduced by it. In the Day they riſe and ſpread: and 'tis then the ſtrange Effect appears on touching them.

Light expands the Lobes, ſeparates the Ribs, and raiſes the Footſtalks. It does this, by putting all the Parts of them in a vibrating Motion. This we have ſeen in the Abrus, is principally effected by means of thoſe Cluſters of Fibres which are placed at the Baſes of the Footſtalks. In this Plant, as there are no leſs than three Sets of thoſe Cluſters, the Effects of the ſame Principle are naturally much greater than in the Abrus, where there is only one.

The Vibration of the Parts is that which keeps the Leaves of the ſenſitive Plant in their expanded and elevated State: this is owing to a delicate Motion continued through every Fibre of them. When we touch the Leaf, we give it another Motion more violent than the firſt: this overcomes the firſt: the Vibration is ſtopped by the rude Shock; and the Leaves cloſe, and their Footſtalks fall, becauſe that vibrating Motion is deſtroyed, which kept them elevated and expanded.

That the Power of Motion in the ſenſitive Plant depends upon the Effect of Light on the expanded Surface of the Leaves, is certain; for till they are expanded, they have no ſuch Power. The young Leaves, even when grown to half an Inch in Length, have no Motion on the Touch, though rough and ſudden.

To propagate the Motion when the Leaves are in a State to ſhew it, there requires a perfect and confirmed State of thoſe Cluſters of Fibres lodged at their Baſe. This is evident: for when the young Leaf has firſt come into the State of Vibration, a Touch will make its Lobes cloſe; but the Effect is not continued down the Footſtalk, till it is more confirmed. No ſhock on the young Leaf will affect the Footſtalk before it is expanded: hence the Cluſters of Fibres at the Baſes of the Lobes firſt acquire their due Condition for Motion, and afterwards thoſe at the Head of the main Footſtalk.

As there requires a due Firmneſs to give the Cluſters of Fibres this Suſceptibility of Motion, and Power of propagating it farther, there needs alſo a Concurrence of favouring Circumſtances, to preſerve them in that delicate State wherein they are capable of exerting theſe Powers.

The cold Air hardens the Fibres, and impairs their Power of Motion. The ſenſitive Plant becomes more languid in this Reſpect, when removed out of the Stove.

The Correſpondence between this Motion, and what LINNÆUS has called the Sleep of Plants, or their natural cloſing of their Leaves at Night, appears alſo in this Inſtance: for as the ſenſitive by being removed out of the Stove, loſes in ſome degree the Quality of cloſing its Leaves on the Touch, the Tamarind by the ſame Change loſes in great part its Quality of cloſing the Leaves at Evening. This is probably owing to the Juices ſtagnating in the Cluſters of Fibres, and to the Contraction of the Bark by Cold.

The Communication of Motion is leſs from the Lobes to the Footſtalk; and greater from the Footſtalk to them. The greateſt Shock is given to the Plant by a rude Touch of the Stem: but even this does not affect the unexpanded or young Leaves.

The Analogy between the Effect of a ſudden Motion, and of the Abſence of Light, is confirmed alſo by this; for as Light decays naturally at Evening, or artificially by ſhutting up the Plant, the Lobes firſt cloſe, and the Footſtalks afterwards fall.

The Power of abſolute Darkneſs is greater on the ſenſitive Plant, than that of the rudeſt Touch. The rudeſt Touch will only cauſe the Lobes of the ſeparate Leaves to cloſe, and the Footſtalks to hang down: the two Leaves will remain far aſunder. The Effect of abſolute Darkneſs exceeds this; for the two Leaves cloſe alſo abſolutely together, and it appears as if the Footſtalk ſupported only one. This proves that the Expanſion of thoſe Parts depends ſolely upon the Effect of Light; and that although it may be diſturbed by a ſuperadded and ruder Motion,

tion, yet it can be taken away abſolutely only by Darkneſs; by the Defect of that to which alone it was owing.

Theſe Experiments every one may eaſily repeat: the Obſervations will be familiarly made by any who have Stoves: they are conſtant and invariable, and the Concluſions from them are certain; for no other Cauſe intervenes.

The Effect of Light is continual while the Light continues. The Plant therefore whoſe Leaves have been thrown down, and cloſed by this rude Shock, is immediately affected by the Light, as at its firſt Appearance in the Morning, or as on its Admiſſion, when the Leaves had been cloſed by artificial Darkneſs. The Vibration begins; and if the Light be at its full Strength, the Expanſion and Elevation of the Lobes is ſo quick, that one may almoſt look upon the Plant and ſee it. A few Minutes often perfects it.

That the Touch of the Leaves no other way affects them than by a Motion greater than their own internal Vibration, is plain from this, that if they be touched with a Finger in ſo deliberate and gentle a manner as not to move them, no Effect is produced: and, on the other hand, if they be any other Way moved, the full Effect follows.

If the Pot be ſhook, though no part of the Plant be touched, the Leaves cloſe, and their Footſtalks fall: or if the Wind blow them, the Effect is the ſame.

Hence it is certain that the Expanſion of the Lobes, and Elevation of the Footſtalks in theſe pinnated Plants, is occaſioned ſolely by that vibrating Motion, in which their Parts are kept by the continual Impulſes of Light: and conſequently, that in all of them they collapſe or ſink on the Abſence of Light; and in the more delicate Kinds upon the Shock of any ruder Motion, which for the preſent ſtops that Vibration.

Hence alſo the different Appearance of pinnated Leaves in various Climates is underſtood; and may be aſſigned to its true Cauſe, which is the different Degree of Light.

In the brighter Regions the Lobes are expanded, not becauſe of the Heat, but becauſe the Light is ſtrong: in the northern Kingdoms they droop, not from Cold, but becauſe the Air is leſs enlightened: in the rainy Seaſons they alſo droop, but it is not from the Moiſture, but the Darkneſs of the Weather; and in *Egypt* they are moſt raiſed of all, not becauſe it never rains, but becauſe the Light is conſtant.

The Abrus placed in a ſouth window perfectly ſhews this; for the Expanſion and Elevation of its Leaves is proportioned always to the Degree of Light, and conſequently it is affected by the cloudy or clear Weather, though the Plant remain in the ſame Place.

The Lobes begin to riſe before the Sun is above the Horizon, becauſe the Air is enlightened in a proportioned Degree; and they begin to cloſe again long before it ſets, becauſe in the South Window the Shadow of the Building darkens the Air about them.

In rainy Weather the Leaves wear the ſame Appearance they would in a Plant native of a Country where there are Seaſons of Rain; they never at any Time of the Day reach the horizontal Poſition, and they droop much earlier in the Afternoon, and begin to expand much later in the Morning.

The ſenſitive Plant which in theſe Experiments was placed near the Abrus, was affected in the ſame Manner: and by repeated and careful Examination, I have always found, that in both theſe and in all others, the Degree of Elevation, or Expanſion in the Lobes, is exactly proportioned to the Quantity of Light; as it is ſolely dependent on it.

When the ſenſitive has been kept out of a Stove ſome Days, and has loſt ſome part of its Power of Motion, if the Leaf be touched ſoftly, and the Force increaſed gradually, it will bear a great deal without drawing up the Lobes; but at the ſame Time a much leſs Preſſure given with a ſudden Stroke, will occaſion their cloſing.

In this manner we may alſo trace the Extent and Progreſs of the Motion according to the Force; a ſlighter Shock raiſing only the Lobes that are touched, a harder the oppoſite ones, and ſo the whole.

This Quality in the Leaves of Plants, as their general Structure is the ſame, and the ſame Agent operates univerſally, ought to be found in all: though in various Degrees, according to the Conſtruction of their Parts. In this, as all the preceding Inſtances, juſt Obſervation confirms the Principles deduced from Reaſon. In ſome it is greater, in others leſs: in many obvious to the common Eye, in others difficultly perceived by the moſt accurate; but on a ſtrict and cloſe Examination, I have not found any Plant or Tree wholly unaffected by it.

E D E N:

A

COMPLEAT BODY of GARDENING.

NUMBER LX.

For the laſt Week in *OCTOBER*.

SECTION I.

FLORA, or the PLEASURE-GARDEN.

CHAP. I.

Flowers and Curious Plants now in their Perfection.

1. WHITE INDIAN HELIOTROPE.

Octob. Pl. 60. Fig. 1. THE general Aſpect of this Plant never fails to command the Attention of the Curious, though it has nothing of the Appearance of a Flower.

The old Writers could not know it, for 'tis Native only of the *Weſt-Indies*; but all who have written on the Plants of that Part of the World, have mentioned it. Sir HANS SLOAN calls it, *Heliotropium maritimum minus folio glauco flore albo*: Glaucous-leav'd, white-flower'd, ſmall Sea *Heliotrope*.

LINNÆUS, *Heliotropium foliis lanceolato-linearibus glabris aveniis ſpicis conjugatis*: narrow-leav'd Heliotrope with conjugate Spikes, and ſmooth veinleſs Leaves.

The Root is compoſed of numerous white Fibres connected to a ſmall Head.

The Stalk is round, ſmooth, of a greyiſh green, and ten Inches high.

The Leaves ſtand in Pairs; and they are oblong, narrow, undivided at the Edges, obtuſe, ſmooth, fleſhy, and of a blueiſh green.

The Flowers terminate the Stalk in a double Spike, turning down and curling back each Way; and numerous others riſe from the Boſoms of the Leaves. They are ſmall, white; and at Evening have a very fragrant Scent.

Each has its little Cup, form'd of one Leaf tubular at the Baſe, and cut into five ſmall Segments at the Edge.

The Flower is formed of one Petal: this is tubular at the Baſe, and at the Rim is cut into five obtuſe Segments; and the opening at the Top of the Tube is covered by five convergent Scales. Octob.

The Filaments are five; they are very ſhort, they ſtand in the Mouth of the Flower, and have ſmall covered Buttons.

The Style is ſingle, and four naked Seeds follow: the Cup is their only Defence.

The five Filaments and ſingle Style refer this to the *Pentandria Monogynia* of LINNÆUS, his fifth Claſs and its firſt Section.

Culture of this HELIOTROPE.

It is a Native of the warmer Parts of the *Weſt Indies*, and lives on the ſandy Shores an Annual.

This directs our Culture. Let Seeds be procured from its native Country, and ſown in a Pot of ſome light Compoſt, mixed with one third Part Sand, and wetted with a little Brine.

Let the Pot be ſet up to the Rim in a Bark Bed; and when the young Plants are three Inches high, let them be tranſplanted into ſeparate Pots. They muſt be watered and ſhaded till they have taken Root, and afterwards brought into the Stove. They will ripen Seeds here with good Management: but the beſt Plants are produced from thoſe brought from the native Place.

2. VIRGINIAN PULMONARIA.

Pl. 60. Fig. 2. This is a very delicate and pretty Plant; unlike its *European* Kindred, for they are robuſt and rough, but ſuperior to them all in Beauty.

Till the Diſcovery of *America*, it could not be known to the botanical Writers, for it is not Native any where elſe; but ſince that Time moſt have named it. MORISON calls it, *Symphitum ſive pulmonaria non maculata foliis glabris acuminatis flore patulo cæruleo*, a Name firſt given it by PLUKENET.

LINNÆUS, more correctly, *Pulmonaria calycibus abbreviatis foliis lanceolatis obtuſiuſculis*: obtuſe lanceolate-leav'd Pulmonaria with ſhort Cups.

The Root is long, and hung with many Fibres.

The firſt Leaves are broad, oblong, and ſmooth, they riſe without Footſtalks, and are of a very fine green.

The Stalk is eight Inches high, and is tender, and of a pale green.

The Leaves ſtand alternately upon it, and

Octob. they have no Footſtalks; they are narrower than thoſe from the Root, oblong, and waved lightly at the Edges, broadeſt toward the middle, and obtuſe.

The Flowers are numerous, they form a handſome Head upon the Summit of the Stalk, and each has its ſeparate very ſlender Footſtalk. They are large, and of a delicate blue, with ſome Tinge of purpliſh.

Each ſtands in a ſmall Cup, formed of one Leaf, and cut into five light Segments.

The Body of the Flower is formed of one Petal; it is long, hollow, and widens from the Baſe to the Rim, where it is cut lightly into five Segments, and the Mouth is perfectly open.

The Filaments are five, they are very ſhort, and they have upright convergent Buttons.

The Style is ſingle, and the Flower is followed by four naked Seeds.

Octob. The five Filaments and ſingle Style refer this to the *Pentandria Monogynia* of LINNÆUS.

Culture of this PULMONARIA.

It is a Native of *Virginia*, where it thrives beſt in a looſe dry Soil. With us it lives perfectly well throughout the Year in the open Borders; and is eaſily propagated by parting the Roots at Autumn.

The firſt Stock is beſt raiſed from Seed, which ripens very well here, and ſhould be ſown in *September* in a Nurſery-bed. From thence the young Plants ſhould be removed the following *April* to the Places where they are to remain.

Every Year they ſhould be taken up and planted again in ſome freſh Mould. The beſt Seaſon for this is early in Spring.

3. INDIAN BORAGE.

Pl. 60. Fig. 3. This is one of the *Eaſt Indian* Herbs which differ ſo extremely from the *European* Kinds of the ſame Genera, that we cannot wonder Writers who ſaw the Plants imperfect, or judged of them imperfectly, referred them to wrong Kinds. ISNARD has named this *Cynogloſſoides*; and PLUKENET, more ſenſible of his not ſeeing the true Character, refers it to no Genus, but calls it, *Anchuſæ degeneris facie Indiæ Orientalis herba quadricapſularis:* an Eaſt-Indian Quadricapſular Plant, with the Aſpect of baſtard Alkanet.

LINNÆUS, who could trace the true Characters under an unlike Outſide, refers this to the *Borage*, and calls it, *Borago foliis ramificationum oppoſitis, calycinis foliolis ſagittatis:* Borage with the Leaves in Pairs upon the Branches, and the Cup Leaves arrow-headed.

The Root is compoſed of numerous thick Fibres, connected to a ſmall Head.

The Stalk is round, of a pale green, upright, and divided into many Branches.

The Leaves ſtand alternate on the main Stalk, and in Pairs upon the young Shoots. They are oblong, and of a freſh green.

The Flowers are minute, but the Cup Leaves extremely ſingular; they riſe erect, they are of an arrow-headed Shape, and are ſtain'd delicately with crimſon.

The Flower is compoſed of a ſingle Petal, the lower Part is tubular, and it is divided deeply into five Segments at the Edge. The Opening is ſtopped up by a Crown, compoſed of five obtuſe and convergent Scales.

The Filaments are five, they converge alſo, and have oblong Buttons, which are fixed to their inſide about the middle.

The Style is ſingle, and there follow each Flower four naked Seeds.

The five Filaments and ſingle Style refer the Plant to the *Pentandria Monogynia* of LINNÆUS.

Culture of this BORAGE.

It is a Native of the *Eaſt* and *Weſt-Indies*; an Annual; and with us muſt be raiſed from Seed in a Pot of light Compoſt, ſet up to the Rim in a Bed of Tanner's Bark.

The Beginning of *March* is the beſt Time for ſowing the Seeds.

The young Plants muſt be often watered; when they are three Inches high, they ſhould be removed into ſeparate ſmall Pots; and when they have ſtood ſhaded in the ſame Bark-bed till well rooted, they muſt be removed into the Stove where they are to flower.

4. VIOLET CYCLAMEN.

Pl. 60. Fig. 4. Every Gardener knows in what Rank to hold the Sowbreads, and all the botanical Writers have deſcribed them.

This has been diſtinguiſhed by the Name *Cyclamen folio anguloſo*, from the angulated Form of its Leaves; and *Serotinum*, from its late Seaſon of flowering. C. BAUHINE calls it, *Cyclamen Hederæ folio*; and our PARKINSON, *Cyclamen Hederæ foliis autumnale:* autumnal Sowbread with Leaves like Ivy.

LINNÆUS does not allow the ſuppoſed ſpecifick Diſtinction between this and the round leav'd Kind. He obſerves that there are ſo many Varieties with Leaves between round and angulated, in all Degrees and Forms, that there is no fixing the Boundary of the Diſtinction. He gives to all the *European* Kinds the Name *Cyclamen corolla retroflexa:* Cyclamen with the Flower turned back.

The Root is very large, and black on the Outſide, but white within; and is rounded, but depreſſed.

The Leaves are numerous and not inelegant; they are large, oblong, angulated in various Manners, and waved or indented at the Edge. Their Colour on the upper Side is a deep green, with ſome Blotches of white; on the under Part they are purple or crimſon: they ſtand on long, thick, but not ſtrong rediſh Footſtalks.

The Flowers riſe ſingly on long, naked Footſtalks; they are large, of a very ſingular Form, and of a beautiful Violet Blue. Each has a rounded ſmall Cup, divided into five little Segments.

The Flower is compoſed of one Petal. The

tubular

Octob. tubular Part is rounded and ſwelled, and the Verge is compoſed of five large lanceolate Segments, with a prominent Neck. The Segments turn up.

The Filaments are five, and they ſtand in the Neck of the Flower.

Their Buttons are upright, acute, and convergent.

The Style is ſingle, and longer than the Filaments, and the Fruit a round large Berry, which contains ſeveral angulated and ſomewhat oval Seeds.

The five Filaments and ſingle Style refer the Plant to the *Pentandria Monogynia* of LINNÆUS, his fifth Claſs, and its firſt Section.

Octob.

Culture of this CYCLAMEN.

It is a Native of many of the northern Parts of *Europe*, and bears all Seaſons in our open Borders. The true Method of propagating it is by Seed: this ſhould be ſaved from the fineſt Flowers, and ſowed on a Piece of Ground in the Nurſery, open to the Morning Sun.

The Progreſs of the Plant to Perfection is very ſlow; but the Gardener who has Patience, will this Way obtain beautiful Flowers. The fineſt are to be preſerved for the diſtinct Beds, the reſt diſperſed in leſs conſpicuous Places; and once a Year they ſhould be all taken up, and planted in new Mould.

5. PURPLE CORTUSA.

Pl. 60. Fig. 5. This, tho' with ſomething of the Weed Aſpect, is a conſpicuous and handſome Plant; and long ſince made its way into our Gardens; whence a worſe Taſte, prefering Novelty to Beauty, has now almoſt baniſhed it.

The earlier Writers all mention it. MATHIOLUS calls it *Cortuſa*, and moſt continue the Denomination, with the Addition of that Author's Name, *Cortuſa Mathioli*. C. BAUHINE more diſtinctly calls it, *Sanicula montana, latifolia, laciniata:* broad-leav'd, laciniated, mountain Sanicle.

LINNÆUS preſerves the *Mathiolan* Name *Cortuſa*, and adds as the Diſtinction of this Species, *Calycibus corolla brevioribus:* Cortuſa, with the Cups ſhorter than the Flower, there being a new diſcovered Siberian Kind, in which they are longer.

The Root is compoſed of innumerable duſky Fibres connected to a ſmall Head.

The Leaves riſe in a fine large Cluſter, and are in their Form and Colouring very elegant.

Their Footſtalks are long, and rediſh; they are broad, deeply jagged at the Edges, and of a fine green on the upper Side, but greyiſh underneath.

The Stalk is round, upright, and eight Inches high.

The Flowers crown its Summit in a very elegant Head; they are about ten in Number; and each having its long delicate Footſtalk, they ſpread out, and droop downwards; they are large, of a delicate purple, and have a light Fragrance.

Each Flower has a Cup form'd of one Leaf, cut at the Rim into five Segments.

The Body of the Flower is form'd of one Petal, tubular a little Way; and divided into five large and elegant Segments, with as many Tubercles at the Baſe.

The Filaments are five, and they are very ſhort, and their Buttons of a ſingular Structure; they are compoſed of two Plates, and fixed to the Outſide of the Filaments.

The Style is ſingle, and the Fruit is an oval Capſule with many Seeds.

The five Filaments and ſingle Style refer the Plant to the *Pentandria Monogynia* of LINNÆUS, his fifth Claſs, and its firſt Section.

Culture of this CORTUSA.

It is a Native of the northern Parts of *Europe*, and requires no ſhelter in our Gardens: it muſt be planted in an open Situation, and in the common Mould.

The Roots increaſe abundantly, and no Way is ſo ready as the parting them for increaſing the Plant; nor is there any Advantage in raiſing it from Seed, for the Flower admits no Variation. There is this farther Diſadvantage, that the Seeds ripen poorly with us. The Plants ſhould be allowed a Foot Diſtance, and often watered.

6. ORIENTAL OPHIORHIZA.

Pl. 60. Fig. 6. The Singularity and celebrated Virtues of this Plant, muſt give it a Place in the Collections of the Curious, for it can claim little Praiſe on the Account of Beauty.

The earlier Writers did not know it. KÆMPFER in his *Amœnitates Exoticæ*, names it, under the *Indian* Term, *mungos radix*.

LINNÆUS firſt treated it botanically: he gave it the Name *Ophiorhiza*, eſtabliſhed the Characters of a regular Genus, and added as the Diſtinction of this Species, *foliis lanceolato ovatis:* Ophiorhiza, with lanceolate but nearly oval Leaves. This diſtinguiſhes it from the Plant called *Nitra*, which is truly an Ophiorhiza, but has abſolutely oval Leaves.

The Root is extreamly long, ſlender, and variouſly twiſted. Its Bark is of a rediſh brown. The Pith white and hard. The Taſte is bitter beyond all other known Subſtances, and the *Malayans* hence call it by a Name which ſignifies in their Language, the Gall of the Earth, as we do Gentian.

The Stalk is round, tender, jointed, tolerably upright, and fifteen Inches high. The Colour is a yellowiſh green, but the Joints are red.

The Leaves are placed in Pairs, and are large, broad, but lanceolated, undivided at the Edges, ſharp pointed, and of a delicate green.

The Flowers are very minute, and their Colour is a faint red; they are placed in little Cluſters at the Tops of ſmall Shoots, from the Boſoms of the Leaves.

Each Flower has its Cup formed of one Leaf, permanent, and cut at the Rim into five equal Segments.

The Flower is formed of one Petal, hollow, and cut at the Verge into five ſmall expanded Segments. Five Filaments occupy the Centre; they are inſerted into the Tube, and equal it in Length; and they have oblong Buttons.

The Style is ſingle, longer than the Filaments, thickeſt in the upper Part, and there divided into two Heads. It riſes from a double Rudiment, which ripens into a Capſule compoſed of two broad obtuſe Lobes, which ſpread out, and ſplit inwards.

The Seeds are numerous, and angulated.

The five Filaments and ſingle Style refer the Plant to the *Pentandria Monogynia* of LINNÆUS, his fifth Claſs, and its firſt Section.

Culture of this OPHIORHIZA.

It is a Native of many Parts of the *Eaſt Indies*, and is there familiarly known, and in great Repute againſt Poiſons. They have a fabulous Story, that its Virtues were diſcovered by the Creature, whence it is vulgarly named; *Mungos*, which, they ſay, eats it, when bit by a Viper.

We know how to laugh at theſe Tales; but we may underſtand by this that the Plant is ſo well known, that Seeds may be eaſily procured without Danger of Miſtake; and they will ſhoot freely in a Pot of rich Mould in a Bark-bed: they ſhould be tranſplanted at three Inches high into ſeparate Pots; and after they are well rooted, and tolerably grown, they ſhould be removed into the Stove to flower.

7. TRIFID CONVOLVULUS.

Pl. 60. Fig. 7. This elegant Plant we owe to the Diligence of thoſe who have viſited the *American* Iſlands in the Purſuit of Science. Its Singularity and Beauty equally entitle it to a Place in our Gardens.

The earlier Writers could not know it: it is figured by Sir HANS SLOANE under the Name of *Convolvulus folio lanato tripartito:* LINNÆUS refers it alſo to the Convolvulus Kind; and adds as the Diſtinction of the Species, *foliis trilobis tomentoſis, caule lanuginoſo:* woolly Convolvulus, with trilobated Leaves.

The Root is long and white, and runs a great Way under the Surface.

The Stalk is round, weak, of a pale green, covered with a white downy Matter: when ſupported among Buſhes, it will riſe to a very conſiderable Height.

The Leaves ſtand alternately, and remote; they have long Footſtalks, whitiſh, and downy at the main Stem, and riſing in an acute Angle.

The Leaves themſelves are large, broad, divided almoſt to the Baſe into three Lobes, which are broad, ſharp pointed, and undivided at the Edges. Their Colour is alſo a whitiſh green, and they are thick, covered with the ſame woolly Down.

The Flowers ſtand ſingly on long Footſtalks, riſing from the Boſoms of the Leaves; and they are large, and of a beautiful purple.

Each has its Cup formed of a ſingle Leaf, cut into five Segments at the Edge.

The Flower is formed of one Petal, and is long, hollow, and undivided at the Rim.

The Filaments are five; they are ſhort, and are crowned with flatted oval Buttons.

The Style is ſingle, but crowned with two Heads; and the Fruit an oblong Capſule, with ſeveral large Seeds.

The five Filaments and ſingle Style place this Plant among the *Pentandria Monogynia* of LINNÆUS, the fifth of his Claſſes, and its firſt Section.

Culture of this CONVOLVULUS.

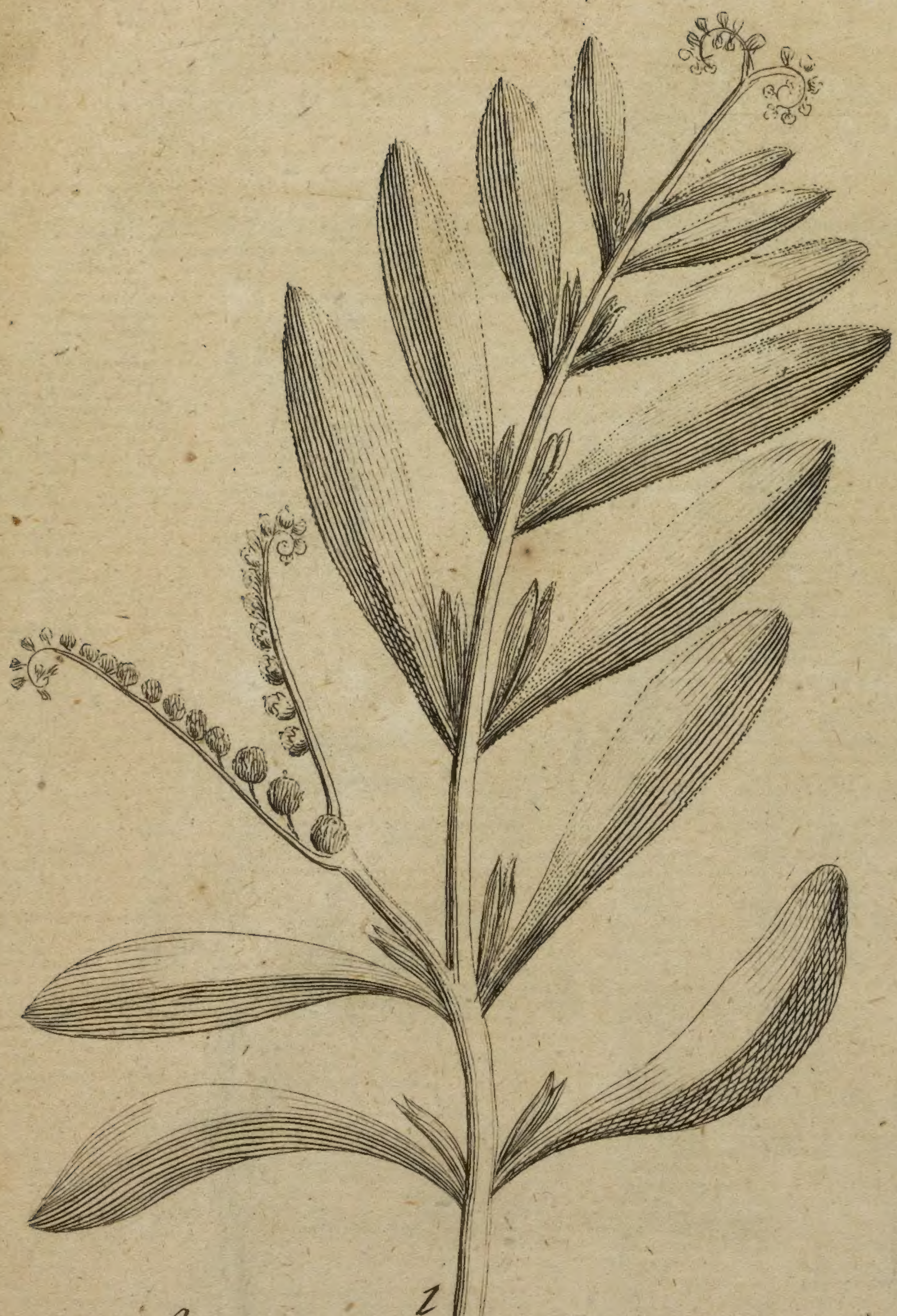
It is a Native of *Jamaica*, and other warm Parts of the *Weſt Indies*, and loves a looſe rich Soil. With us it muſt be raiſed from Seeds; and allowed the Heat of a Stove; but its Management is eaſy to thoſe who have this Advantage, and it will make a very elegant Appearance among the other Plants when brought to flower.

The Seeds muſt be obtained from ſome of the Iſlands where it is native, and ſown in *March* upon ſome of the light Compoſts, in a Pot. This muſt be ſet up to the Rim in a Bark-bed, and at Times gently watered.

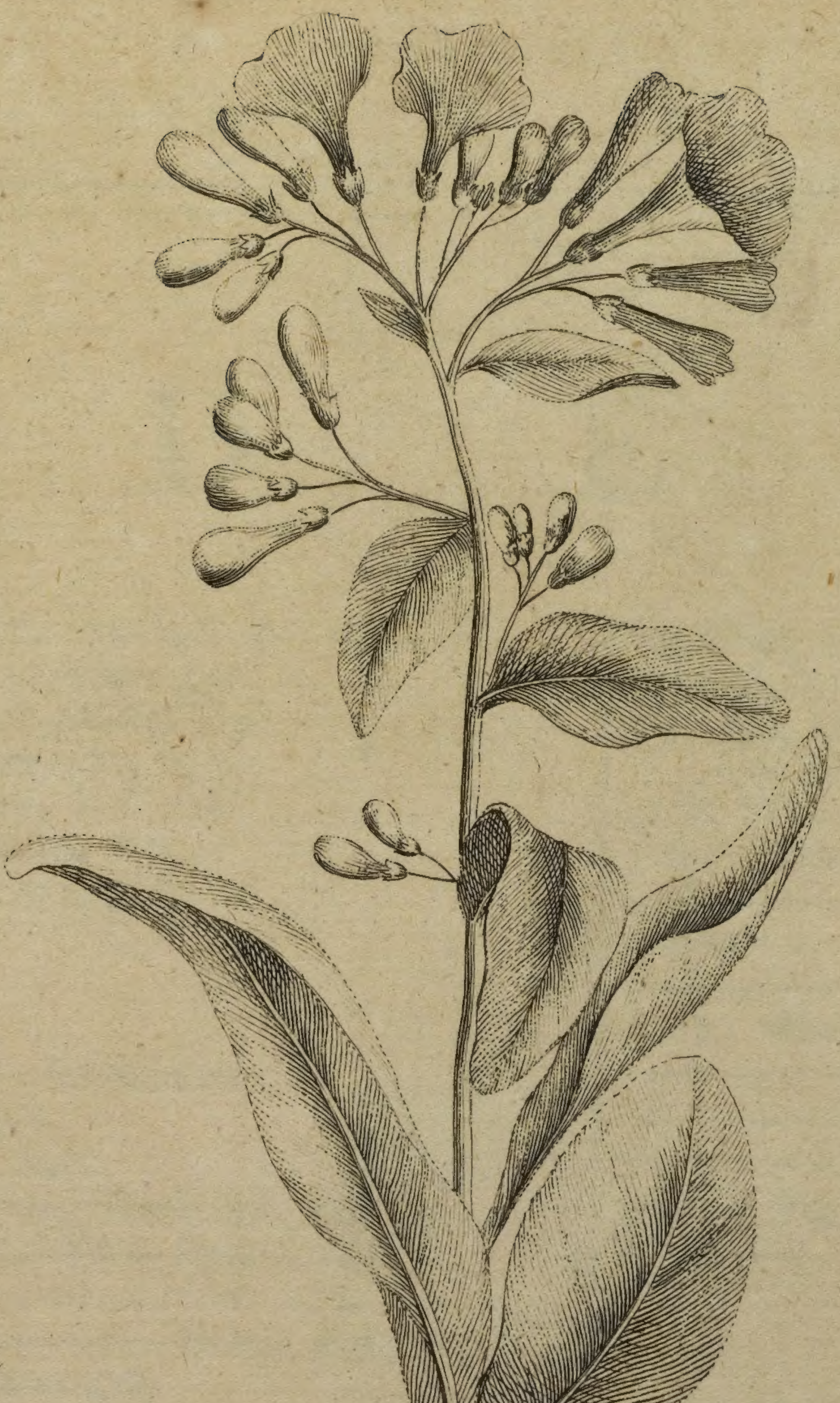
When the young Plants appear they muſt be thinned, if they riſe too cloſe, and often refreſhed with Water; but it muſt be given a little at a Time, and with the utmoſt Care; for if the Plants are too much wetted when ſo young, they never thrive well afterwards.

At three Inches high they muſt be tranſplanted into ſeparate Pots. Theſe muſt be ſet up to the Rim in the Bark-bed, as the others, and a Mat muſt be drawn over the Glaſſes to ſhade them till they are rooted. They muſt be allowed to take ſome farther Growth in this Place, and then removed into the Stove.

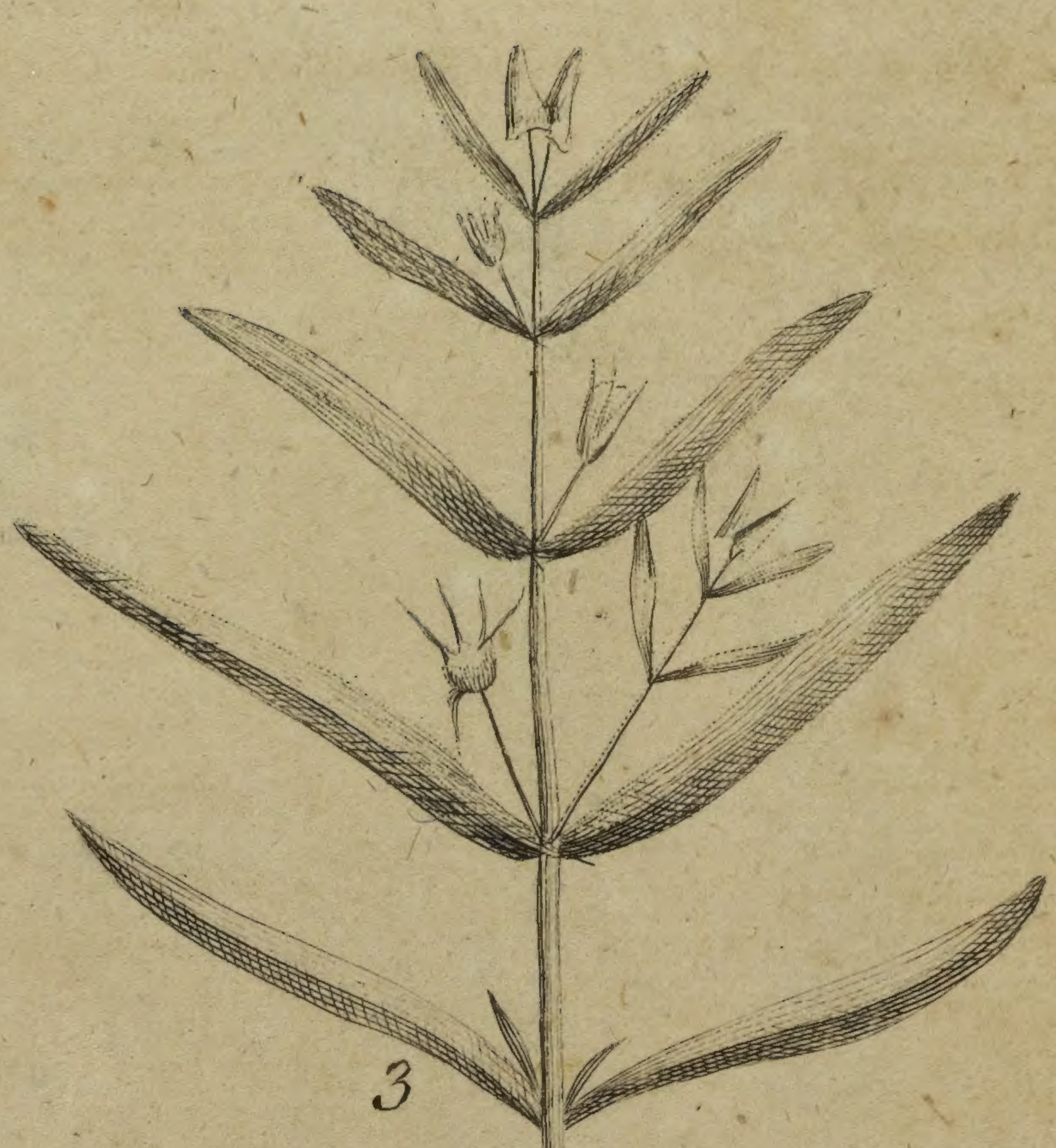
From Time to Time they muſt be tranſplanted into larger Pots, and they muſt have Air and Water as the other Kinds. They ſhould have the Opportunity of climbing; and they will flower in great Profuſion. They are remarkably handſome when in full Bloom, from the fine Contraſt of the white Leaves and purple Flowers.



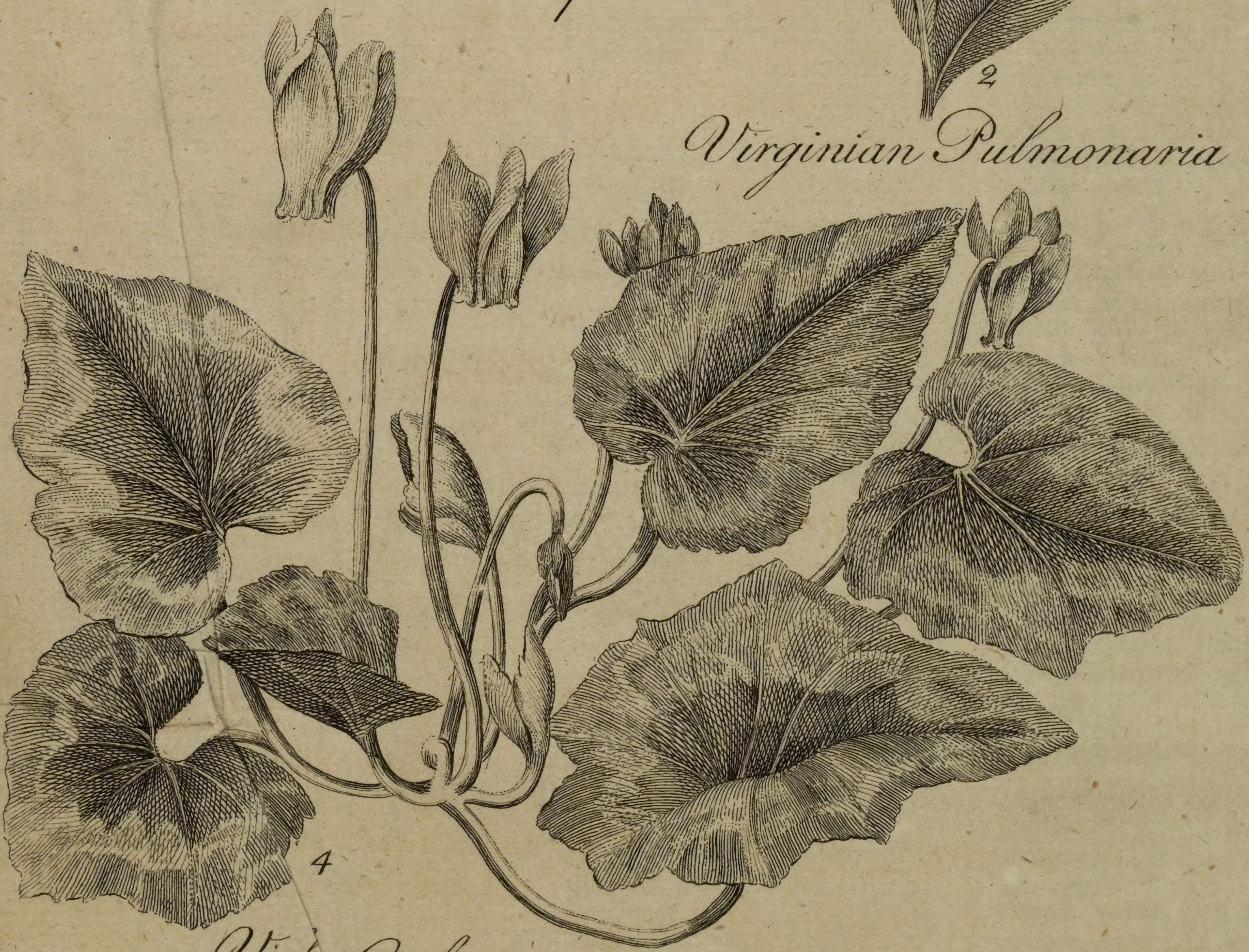
1
White Indian Heliotrope



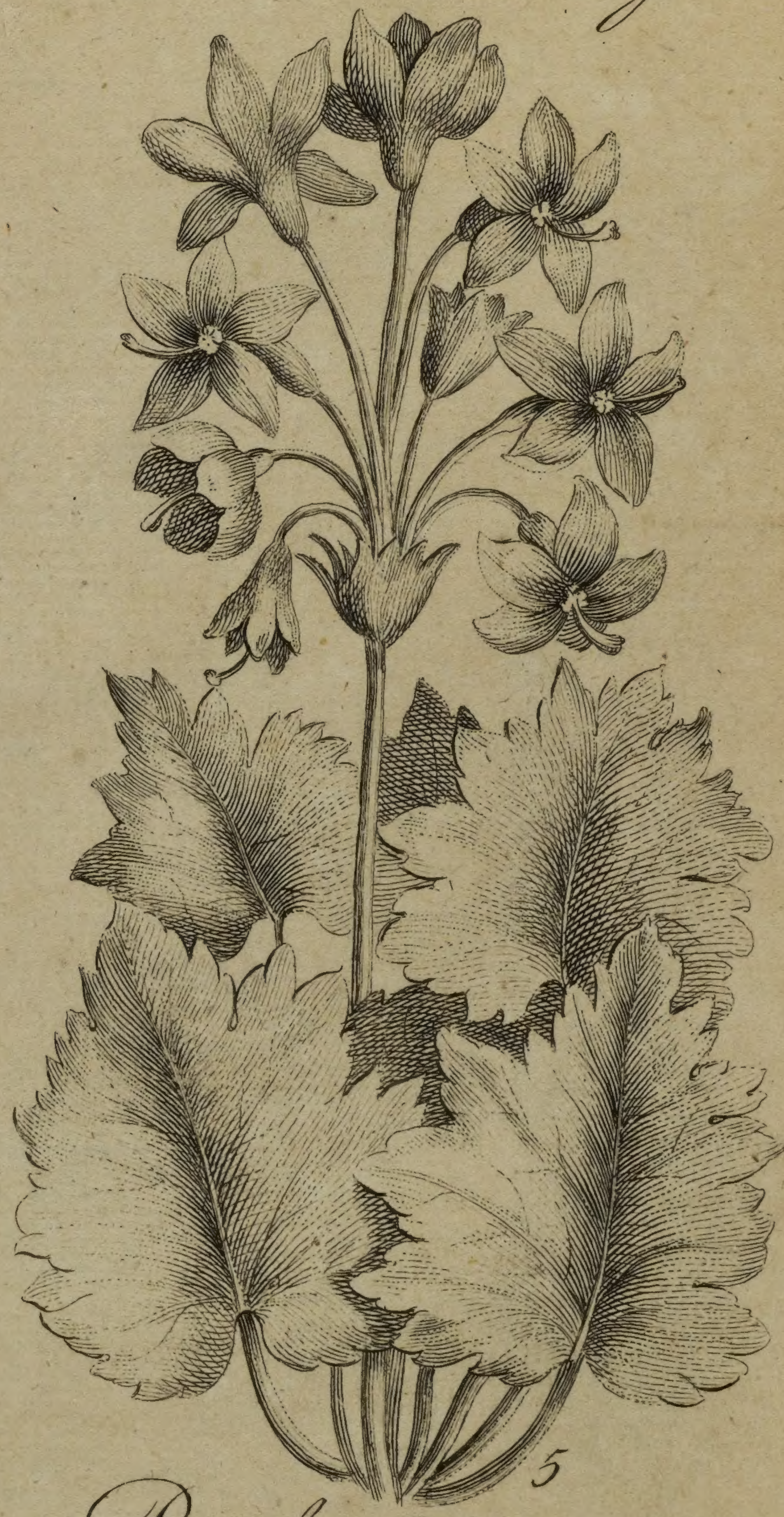
2
Virginian Pulmonaria



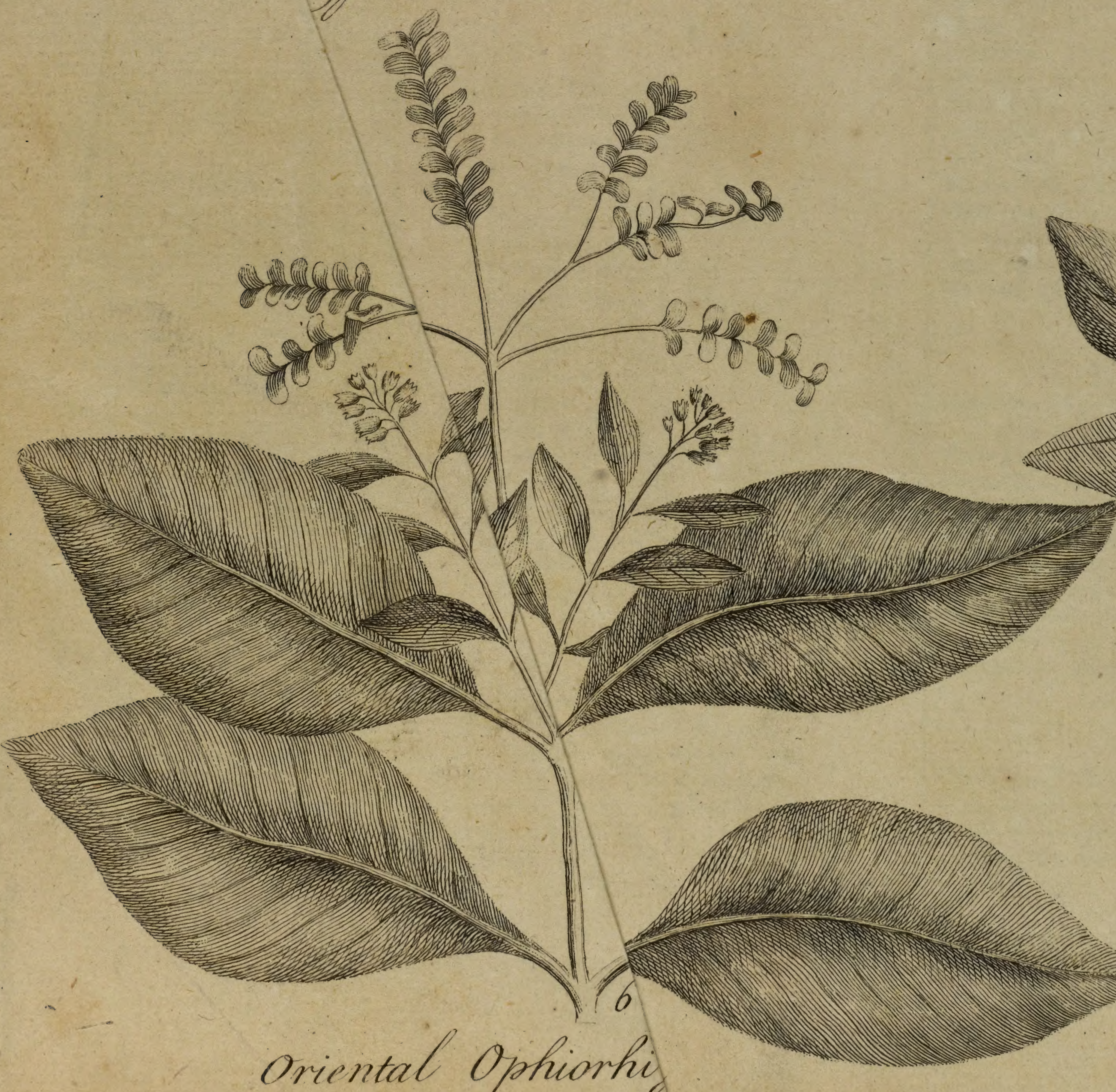
3
Indian Borage



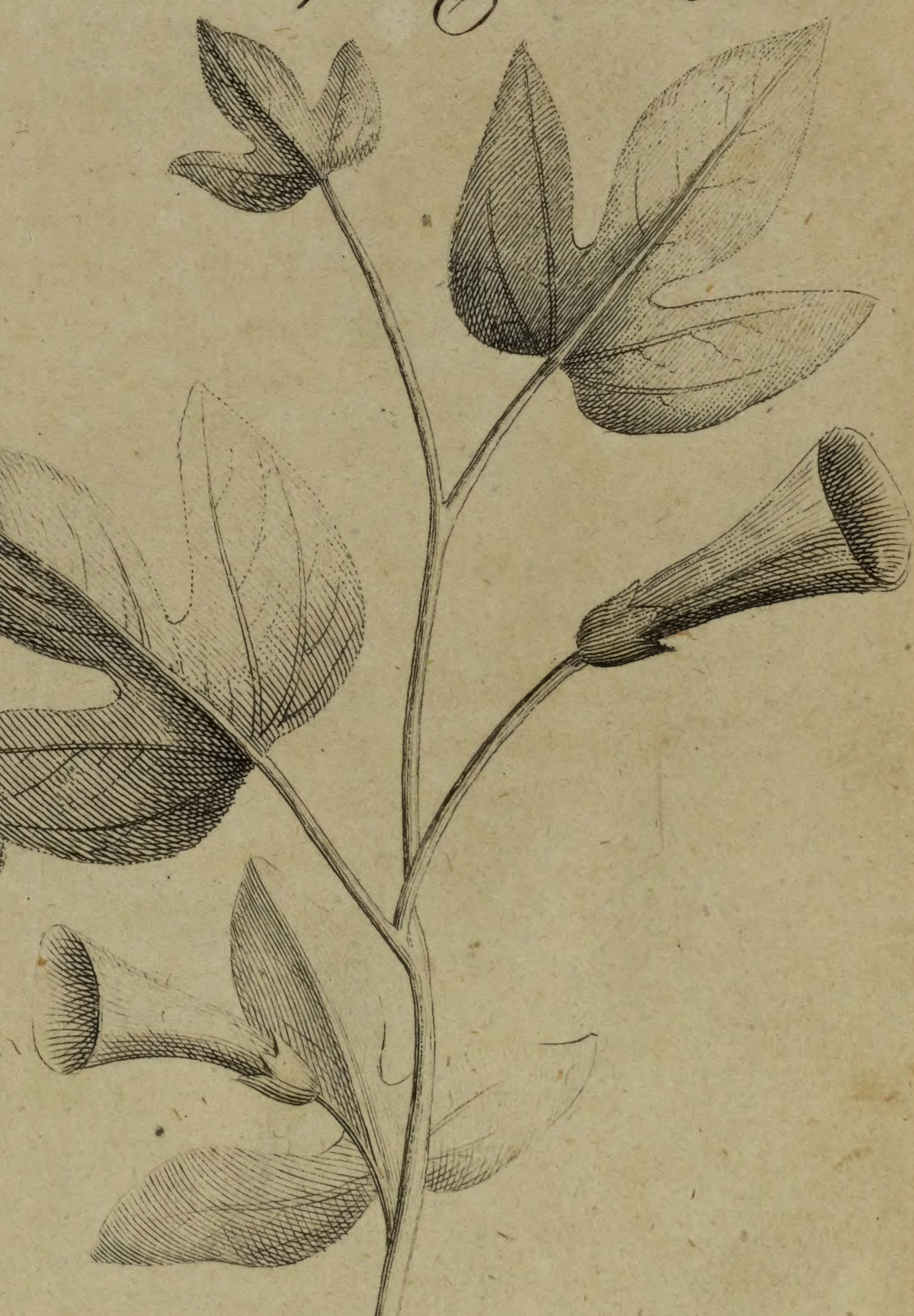
4
Viol Cyclamen



5
Purple Cortusa



6
Oriental Ophiorhi



7
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⁂ The Products of the Kitchen and Fruit Garden are contained under their prop Heads, in the ſeveral Weeks of each Month, referred to in this Index.

N. B. The Publick are to be informed, that ſince our Publication of the Vines aſcribed to Deadly Nightſhade, many Trials have been made, but few have ſucceeded: it has no ſpecifick Virtue againſt Cancers, and its Uſe may be hurtful.

FINIS.